

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION**

IN RE: ANADARKO PETROLEUM
CORPORATION SECURITIES
LITIGATION

Case No. 4:20-cv-576

District Judge Charles R. Eskridge III

CLASS ACTION

**APPENDIX OF MATERIALS CITED IN SUPPORT OF DEFENDANTS' SUR-
REPLY IN FURTHER OPPOSITION TO PLAINTIFFS' MOTION FOR CLASS
CERTIFICATION AND TO APPOINT CLASS REPRESENTATIVES AND
CLASS COUNSEL**

DECLARATION OF KEVIN J. ORSINI
IN SUPPORT OF DEFENDANTS' SUR-REPLY IN FURTHER OPPOSITION TO
PLAINTIFFS' MOTION FOR CLASS CERTIFICATION AND TO APPOINT
CLASS REPRESENTATIVES AND CLASS COUNSEL

Pursuant to 28 U.S.C. § 1746, I, Kevin J. Orsini, declare as follows:

1. I am a Partner of the law firm Cravath, Swaine & Moore LLP and have been admitted *pro hac vice* as counsel to Defendants Anadarko Petroleum Corporation, R. A. Walker, Robert G. Gwin, Robert P. Daniels, and Ernest A. Leyendecker, III, in the above-captioned action.

2. I respectfully submit this Declaration in support of Defendants' Sur-Reply in Further Opposition to Plaintiffs' Motion for Class Certification and to Appoint Class Representatives and Class Counsel.

3. Submitted with this Declaration as Exhibit A is a true and correct copy of the report of Defendants' expert, Dr. Allen Ferrell, dated June 12, 2024.

4. Submitted with this Declaration as Exhibit B is a true and correct excerpted copy of the transcript of the deposition of Plaintiffs' expert, Mr. Bjorn Steinholt, taken on December 21, 2022.

5. Submitted with this Declaration as Exhibit C is a true and correct copy of the report of Plaintiffs' expert, Mr. Bjorn Steinholt, dated November 9, 2022.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on June 12, 2024

/s/ Kevin J. Orsini
Kevin J. Orsini

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Exhibit A

**IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION**

GEORGIA FIREFIGHTERS' PENSION	:	Civil Action No. 4:20-cv-00576
FUND, Individually and on Behalf of All Others	:	
Similarly Situated,	:	
	:	
	:	
Plaintiffs,	:	
	:	
v.	:	
	:	
ANADARKO PETROLEUM	:	
CORPORATION, R.A. WALKER, ROBERT	:	
G. GWIN, ROBERT P. DANIELS, and	:	
ERNEST A. LEYENDECKER, III,	:	
	:	
Defendants.	:	
	:	

**SUR-REPLY REPORT OF ALLEN FERRELL, PH.D.
CONFIDENTIAL
June 12, 2024**

I. Background

1. On December 10, 2021, I submitted an expert report in this matter (“Ferrell Report”).¹ In the Ferrell Report, I formed the following two opinions regarding price impact:²

- On 18 out of the 21 alleged misstatement dates identified in the Complaint, there was no statistically significant price increase. On the remaining three alleged misstatement dates, the Shenandoah disclosures on these dates were stale and, as such, assuming markets are efficient, I would not expect Anadarko’s stock price to react to these Shenandoah disclosures. Moreover, on these three dates, market commentators attributed Anadarko’s stock price increase to factors unrelated to Shenandoah.
- There is no reliable economic basis to conclude that the alleged Anadarko May 2, 2017 corrective disclosures about Shenandoah had a price impact on Anadarko’s stock price.³

2. On February 3, 2022, Plaintiffs submitted the expert rebuttal report of Bjorn Steinholt, CFA dated February 2, 2022 (“Steinholt Rebuttal Report”).⁴ In that report, Mr. Steinholt states that he was asked to “review and discuss” the Ferrell Report.⁵ Mr. Steinholt claims that I “did not actually perform an event analysis to quantify the impact, if any, of the Corrective Disclosure on Anadarko’s stock price on May 3, 2017.”^{6,7} Mr. Steinholt then contends that I “ignored economic evidence that clearly demonstrates price impact relating to [the Corrective Disclosure],” including the following:⁸

¹ The Ferrell Report provides information on my qualifications and defines capitalized terms. My updated CV is attached hereto as **Appendix 1**.

² Ferrell Report, ¶ 17.

³ In the Ferrell Report, I explained that Anadarko disclosed three pieces of information after market close on May 2, 2017: “(1) that Shen-6 was a dry hole; (2) that Anadarko was suspending appraisal activity at Shenandoah; and (3) that Anadarko was taking an impairment charge related to the Shenandoah project,” which I understand Plaintiffs allege as the corrective disclosures. Ferrell Report, ¶ 54.

⁴ Mr. Steinholt previously submitted a report dated October 1, 2021 in this matter (“Steinholt Report”).

⁵ Steinholt Rebuttal Report, ¶ 3.

⁶ Steinholt Rebuttal Report, ¶ 42.

⁷ The Steinholt Rebuttal Report states that “[t]he Corrective Disclosure in this case is Anadarko’s suspension of further appraisal work on Shenandoah due to lack of commercial viability, resulting in an impairment charge of \$467 million and the write-off of \$435 million of exploratory well costs, totaling \$902 million.” Steinholt Rebuttal Report ¶ 11. To avoid confusion, I use Mr. Steinholt’s “Corrective Disclosure” terminology in this report to refer to the alleged corrective disclosures.

⁸ Steinholt Rebuttal Report, ¶ 7.

- “The suspension of Shenandoah and corresponding \$902 million in write-offs was new, economically material information that, in an efficient market, would be expected to significantly impact Anadarko’s stock price.
- Analyst downgrades and price impact for Shenandoah partner Cobalt’s stock price relating to Anadarko’s Corrective Disclosure.
- Anadarko’s stock price declined 4.1% in after-market trading on May 2, 2017, after the Corrective Disclosure, but before the lone confounding factor [news related to the Firestone, Colorado fire] identified by [me].
- An event study that specifically controls for the confounding factor identified by [me] demonstrates that Anadarko’s stock price decline on May 3, 2017, was statistically significant, and, thereby, affirmatively demonstrates price impact.”

II. Assignment and Summary of Opinions

3. I have been asked by Cravath, Swaine & Moore LLP, counsel for Defendants, to review and respond to new price impact claims in the Steinholt Rebuttal Report that were not previously presented. In performing this work, I have been assisted by Compass Lexecon staff. Based on my review of the materials listed in **Appendix 2**, I stand by my original opinion that there is no reliable economic basis to conclude that the alleged Corrective Disclosure about Shenandoah had a price impact on Anadarko’s stock and Mr. Steinholt’s criticisms of the Ferrell Report are wrong. The bases for this conclusion are as follows:

- a. My opinion in the Ferrell Report that there is no reliable economic basis to conclude that the alleged Corrective Disclosure about Shenandoah had a price impact on Anadarko’s stock is based on multiple event studies I conducted on the stock prices of Shenandoah partners Anadarko, ConocoPhillips, and Cobalt, and Colorado oil and gas operators Noble Energy, PDC Energy, SRC Energy, and Extraction Oil & Gas. Those event studies, and the other economic evidence I examined, showed that Anadarko’s and ConocoPhillips’s stock price did not react to any of the Shenandoah disclosures made between May 2 and May 8, 2017, but that each of the Colorado operators I analyzed, like Anadarko, did see a statistically significant stock price decline on May 3, 2017 – after the news that fire officials concluded gas seeping from an Anadarko well was the cause of the fatal explosion in Firestone, Colorado and resulting regulatory scrutiny and uncertainty.
- b. Mr. Steinholt’s claim that the “\$902 million in write-offs was new, economically material information” that “would be expected to significantly impact Anadarko’s stock price” is wrong and ignores basic finance. Mr. Steinholt conflates sunk (accounting) costs (i.e., previous cash outlays as opposed to future cash flows) with the market value of Shenandoah embedded in Anadarko’s stock price on

May 2, 2017. Sunk costs do not determine a company's value (and, in turn, stock price); future cash flows do.

- c. Mr. Steinholt's claim that ConocoPhillips is not the appropriate Shenandoah partner to analyze ignores the companies' near-identical ownership interests in the Shenandoah project and basic finance.
 - d. Mr. Steinholt's claim that Cobalt is the more relevant Shenandoah partner to analyze is flawed because, unlike Anadarko, Cobalt was financially distressed and had only 1/189th the market capitalization of Anadarko.
 - e. Mr. Steinholt's conclusion from Anadarko's after-market trading on May 2, 2017 after the alleged Shenandoah disclosures but before the "lone confounding factor" I identified (*i.e.*, the Firestone, Colorado news) is misleading and flawed. Mr. Steinholt has not shown that the after-market for Anadarko's stock is efficient, as would be required to draw any reliable conclusions from Anadarko's after-hours trading. This conclusion is also flawed because it is based on a single *Bloomberg* article and not an event study analysis of after-market trading, is based on an incorrect timeline of after-market disclosures, and ignores that ConocoPhillips's and Cobalt's after-market trading was relatively flat while the Colorado operators saw price declines after the Firestone, Colorado news broke.
 - f. Mr. Steinholt's claim that his new event study controls for the news related to the Firestone, Colorado fire is misleading and flawed. Mr. Steinholt's new event study does not control for industry-wide factors because he inexplicably removed the industry index from his initial event study. As I demonstrated in my opening report, when this index is added back in, the result shows precisely the opposite of Mr. Steinholt's conclusion. The event study is also flawed because the Firestone, Colorado fire was a one-time event and cannot be controlled for with the historical stock price data of the Colorado operators one-year prior to the event date.
4. I elaborate on the above bases in the rest of this report.

III. My Opinion That There Is No Reliable Economic Basis To Conclude That the Alleged Corrective Disclosure About Shenandoah Had a Price Impact On Anadarko's Stock Price Remains Unchanged, and Mr. Steinholt's Criticisms of My Report Are Wrong.

5. As I explained in the Ferrell Report, there is no reliable economic basis to conclude that the alleged Corrective Disclosure about Shenandoah, released after market close on May 2, 2017, had a price impact on Anadarko's stock price.⁹ Nothing in the Steinholt Rebuttal Report changes my conclusion. I explain below the bases for this conclusion.

A. Multiple Event Studies I Conducted on the Stock Prices of Anadarko, Its Shenandoah Partners, and Other Colorado Operators Are Consistent With the Firestone, Colorado News – Not Anadarko's Shenandoah Disclosures – Impacting Anadarko's Stock Price on May 3, 2017.

6. Mr. Steinholt states that I “did not actually perform an event analysis to quantify the impact, if any, of the Corrective Disclosure on Anadarko's stock price on May 3, 2017.”¹⁰ However, this claim is baffling and false. I clearly *did* perform an event study of Anadarko and found that Anadarko's stock had a statistically significant price decline on May 3, 2017.¹¹ As I explained in the Ferrell Report, when multiple pieces of potentially value-relevant news are released contemporaneously – as was the case after market close on May 2, 2017¹² – an event study on Anadarko alone on that date cannot attribute the price impact to one particular cause.¹³ Thus, in addition to examining other economic evidence, I conducted multiple event studies on the stock prices of several other companies, as any value-relevant Shenandoah disclosures should

⁹ Ferrell Report, ¶ 17.

¹⁰ Steinholt Rebuttal Report, ¶ 42.

¹¹ Ferrell Report Appendix D. As explained in the Ferrell Report, I used the same methodology as Mr. Steinholt with one modification to his oil industry index, which is to remove ConocoPhillips to exclude the potential effect of the alleged fraud on the industry index returns. However, the results of my event study are qualitatively similar, and therefore, the conclusions I draw are the same regardless of whether ConocoPhillips is included or excluded from the industry index.

¹² I explained in the Ferrell Report that, after market close on May 2, 2017, in addition to the news about Shenandoah, Anadarko announced soft production guidance and there was news related to the Firestone, Colorado fire that was disclosed. Ferrell Report, ¶¶ 64-67.

¹³ I explained in the Ferrell Report that “when there are multiple pieces of information disclosed contemporaneously on a day when an event study finds a statistically significant price movement[.]...an event study analysis alone cannot determine which piece of information was value-relevant. Moreover, even when there are multiple pieces of value-relevant information, an event study analysis cannot parse out the price impact of the multiple pieces of information.” Ferrell Report, ¶ 29.

also affect the other Shenandoah Partners (i.e., ConocoPhillips and Cobalt) and value-relevant Firestone, Colorado fire disclosures should also affect the other Colorado operators (i.e., Noble Energy, PDC Energy, SRC Energy, and Extraction Oil & Gas).¹⁴ Based on the results of these multiple event studies, I determined that there is no reliable economic basis to conclude that the alleged Corrective Disclosure about Shenandoah had a price impact on Anadarko's stock on May 3, 2017.¹⁵

B. Mr. Steinholt Conflates Sunk Costs with the Market Value of Shenandoah Embedded in Anadarko's Stock Price on May 2, 2017.

7. Mr. Steinholt claims that, on May 2, 2017, Anadarko "suspended further appraisal work on Shenandoah, resulting in writing off the Shenandoah asset and expensing all drilling costs, totaling \$902 million in write-offs," which "demonstrates that Anadarko itself (prior to the write-off) had assigned a substantial economic value to the Shenandoah asset, which logically would have had some negative impact on Anadarko's stock price during the Class Period if the project was suspended and written off (as was the case at the end of the Class Period)."¹⁶ This is not evidence of price impact. In fact, Mr. Steinholt's claim that the \$902 million in write-offs signals "a substantial economic value to the Shenandoah asset" is misleading and ignores basic finance.

8. The \$902 million in write-offs Mr. Steinholt cites are accounting costs comprised of two pieces.¹⁷ First, \$467 million is an impairment of unproved property balance that "originated from the purchase price allocated to the Gulf of Mexico exploration projects from the acquisition of Kerr-McGee Corporation in 2006."¹⁸ The purchase price allocation was an accounting entry to record the acquired assets (including Shenandoah) based on their estimated

¹⁴ Ferrell Report, ¶¶ 16-18, 28, 29, 32, 35 & Appendices C & D.

¹⁵ Ferrell Report, ¶ 17.

¹⁶ Steinholt Rebuttal Report, ¶ 8.

¹⁷ Mr. Steinholt incorrectly assumes that there should be a relationship between the magnitude of ConocoPhillips's sunk costs and the magnitude of Anadarko's sunk costs. For example, he compares the \$467 million impairment taken by Anadarko to the \$51 million impairment taken by ConocoPhillips. Steinholt Rebuttal Report, ¶ 27. However, he fails to consider that these amounts are not comparable as Anadarko's impairment "originated from the purchase price allocated to the Gulf of Mexico exploration projects from the acquisition of Kerr-McGee Corporation in 2006," which would not be the case for ConocoPhillips. Anadarko Petroleum Corporation, Form 10-Q, March 31, 2017, p. 37.

¹⁸ Anadarko Petroleum Corporation Form 10-Q, March 31, 2017, p. 37.

value in 2006.¹⁹ Thus, this component of the write-off is related to an Anadarko-specific acquisition more than a decade earlier and would not be expected to affect its other partners in Shenandoah, such as ConocoPhillips. Second, \$435 million is related to capitalized exploratory well costs,²⁰ which means that the cash outlay was in the past but, for accounting purposes, the expenses have been spread over time subsequent to the cash outlay.²¹ When Anadarko suspended further appraisal activities in Shenandoah, it “determined that the Shenandoah project no longer satisfies the *accounting requirements* for the continued capitalization of the exploratory well costs.” (emphasis added).²²

9. Given the above, these \$902 million in write-offs are what economists call “sunk costs.” Sunk costs are past cash outlays – i.e., the cash was spent to drill the wells and those outflows cannot be reversed.²³ Mr. Steinholt conflates sunk costs related to Shenandoah with the value of Shenandoah. The value of Shenandoah (like any asset) is equal to the “the present value of *future* cash flows, not sunk costs” (emphasis added).²⁴ This has implications for the value of Anadarko, as the value of Anadarko is equal to the value of all of its assets, including Shenandoah. Given the above, since the \$902 million write-off is a sunk cost that does not affect

¹⁹ FASB Statement of Financial Accounting Standards No. 141: Business Combinations, ¶ 35.

²⁰ Anadarko Petroleum Corporation Form 10-Q, March 31, 2017, p. 37.

²¹ Anadarko Petroleum Corporation Form 10-K, December 31, 2016, p. 76 (“Under the successful efforts method of accounting, exploratory drilling costs are initially capitalized pending the determination of proved reserves. If proved reserves are found, drilling costs remain capitalized and are classified as proved properties...If management determines that future appraisal drilling or development activities are unlikely to occur, associated suspended exploratory well costs are expensed. Therefore, at any point in time, the Company may have capitalized costs on its Consolidated Balance Sheets associated with exploratory wells that may be charged to exploration expense in future periods.”)

²² Anadarko Petroleum Corporation Form 10-Q, March 31, 2017, pp. 13, 37.

²³ See, e.g., N. Mankiw, 2016, *Principles of Economics*, 8th ed. (Cengage Learning), p. 275 (“Economists say that a cost is a sunk cost when it has already been committed and cannot be recovered.”) and R. Brealey, S. Myers, and F. Allen, 2017, *Principles of Corporate Finance*, 12th ed. (McGraw-Hill/Irwin), p. 137 (“Sunk costs are like spilled milk: They are past and irreversible outflows.”).

²⁴ P. Asquith, and L. Weiss, 2019, *Lessons in Corporate Finance*, 2nd ed. (Wiley), p. 365. See also *id.*, pp. 363-364 (“What are sunk costs? They reflect cash that was spent in the past...Sunk costs are not included in project valuations...Investment analysis is always forward-looking.”); T. Koller, M. Goedhart, and D. Wessels, 2020, *Valuation*, 7th ed. (Wiley), p. 370 (“... a company’s value equals the present value of future cash flows, not sunk costs.”); and S. Ross, R. Westerfield, and B. Jordan, 2015, *Fundamentals of Corporate Finance*, 11th ed. (McGraw Hill), p. 351 (“Suppose we are working on a preliminary discounted cash flow analysis... We carefully identify the relevant cash flows, avoiding such things as sunk costs...”).

the value of Shenandoah, then regardless of its magnitude, the Shenandoah write-off would not be expected to affect the value of Anadarko.

10. In contrast to *past* cash outlays related to Shenandoah which are irreversible and do not affect the Company's value, Anadarko faced a reduction in *future* cash flows as a result of the Firestone, Colorado fire. Not only are these future costs limited to direct costs such as remediations costs, which one analyst estimated at \$140 million for "plugging and abandoning" 14,000 existing wells, but it also includes "[t]he larger risk [that] Colorado [would] introduce a setback rule which precludes new drilling."²⁵

11. This regulatory risk could have a large impact on Anadarko's operations in the DJ Basin (which includes Colorado), which comprised approximately a quarter of Anadarko's net asset value at the time.²⁶ Indeed, at the earnings call on May 3, 2017, a J.P. Morgan research analyst recognized that Anadarko's stock price drop (and corresponding market capitalization drop) before the market open reflected the reaction of the market to the Colorado regulatory risk:

Q [Arun Jayaram, J.P. Morgan]: "Al, the market has shaved a couple billion dollars of equity value as the market has priced in some impacts to your DJ Basin, perhaps, inventory. What are your thoughts on the magnitude of this reaction, and what do you see -- I know it's early on in terms of the investigation -- as a bigger picture of impacts to the company and the industry in the State of Colorado?"

A [R.A. Walker, Chairman & CEO]: "Well, I think we, like everybody else, are dealing with the results of the preliminary investigation as well as the orders that

²⁵ "Colorado is not Macondo," Credit Suisse, May 3, 2017. *See also*, "Results Overshadowed by a Colorado Home Explosion," Barclays, May 4, 2017 ("We believe the near-term impact including costs related to inspections, and risk to value of production is modest. The greater risk is to future drilling opportunities.") and "1Q17: Headwinds Accumulate; Move to EW," Morgan Stanley, May 3, 2017 ("The broader and potentially larger impact, is the potential Colorado energy regulatory impact is also unclear, yet more likely in some degree.").

²⁶ The Denver-Julesburg ("DJ") Basin is a large geological formation in northeastern Colorado and southeastern Wyoming, extending into Nebraska, South Dakota and Kansas. <https://www.chevron.com/newsroom/2023/q3/explainer-what-is-the-dj-basin> (last accessed June 11, 2024). *See also*, "1Q17: Headwinds Accumulate; Move to EW," Morgan Stanley, May 3, 2017 ("We estimate ~25% of APC's net asset value (4,000 locations) is in the DJ Basin."); "Colorado is not Macondo," Credit Suisse, May 3, 2017, Figure 1 (showing that DJ Basin comprised 24% of Anadarko's Enterprise Value); "Americas Energy: Oil & Gas - E&P: DJ Basin: State of CO mandates flowline integrity tests; potential impact on APC/NBL/PDCE/XOG," Goldman Sachs, May 4, 2017, p. 1 ("the DJ Basin represents 29% ... of our target price for APC") & Exhibit 1 (showing "Total DJ Basin" for "APC" of 29%).

followed from the governor and the regulators. So I think to go beyond that at this point would be kind of difficult. Investors are certainly left to make their decisions based on the information they have...I'm not really sure I'm in a position to say or answer to the question you're asking me specifically just because again we're dealing with this on a real-time basis. It's very fluid and the orders came out from the governor yesterday.²⁷

12. Similarly, in a May 3, 2017 report that does not mention the \$902 million in write-offs related to Shenandoah, Morgan Stanley lowered its price target solely as a result of the Firestone, Colorado fire:

We lower our rating to EW from OW and lower our price target by 17% to \$74 from \$89 as the potential for increased Colorado regulatory scrutiny provides a significant near-term overhang for shares, particularly given the challenging energy environment and consensus negative sector outlook. Our adjusted PT primarily reflects increased risk of DJ locations and a correspondingly lower out-year rig count due to shallower inventory in our NAV estimate. It also assumes lower multiple expansion due to potential regulatory headwinds and overhang. We are not suggesting any view on culpability or actual regulatory backlash, yet we believe legal or regulatory overhangs will likely compress near-term valuation and, as in the past, can linger longer than expectations.²⁸

13. If one applied Morgan Stanley's 17% reduction in its price target to Anadarko's market capitalization on May 2, 2017 of \$31.5 billion,²⁹ Morgan Stanley's assessment of the impact of the Colorado regulatory risk would be \$5 billion. Thus, the impact on Anadarko's value of the Firestone, Colorado fire could go well-beyond the \$140 million remediation costs alone.

14. Nevertheless, to the extent that these \$902 million in accounting write-offs signaled that Anadarko would not realize the value of Shenandoah, any impact of the write-off would be limited to the loss of the market's assessment of the value of Shenandoah *prior* to the announcement. But, as I explained in the Ferrell Report – and a point not challenged by Mr. Steinholt – some analysts assigned a “low to zero” value to Shenandoah given its uncertainty.³⁰

²⁷ “Q1 2017 Anadarko Petroleum Corp Earnings Call – Final,” CQ FD Disclosure, May 3, 2017.

²⁸ “1Q17: Headwinds Accumulate; Move to EW,” Morgan Stanley, May 3, 2017.

²⁹ Steinholt Rebuttal Report, ¶ 22. Note that Anadarko's market capitalization on May 2, 2017 was \$31.4 billion per ©2024 Center for Research in Security Prices (CRSP), The University of Chicago Booth School of Business. To avoid confusion, however, for purposes of this report, I use Mr. Steinholt's \$31.5 billion market capitalization for Anadarko.

³⁰ Ferrell Report, ¶ 69.

Therefore, to the extent that the write-off signaled the loss of this value, because the value of Shenandoah embedded in Anadarko's stock *prior* to the May 2 announcement would have been "low to zero," any loss thereof also would have been "low to zero."

C. Mr. Steinholt's Claim that ConocoPhillips Is Not the Appropriate Shenandoah Partner to Analyze Ignores the Companies' Near-Identical Stakes in Shenandoah and Basic Finance.

15. Mr. Steinholt claims that, because ConocoPhillips is a much larger company compared to Anadarko, the valuation effect of the news about Shenandoah would have to be much larger before one would observe a statistically significant impact on ConocoPhillips's stock price.³¹ However, Mr. Steinholt claims that Shenandoah could be valued as high as \$5 per share.³² Assuming *arguendo* that Mr. Steinholt was correct, then that would imply Shenandoah would be worth \$2.8 billion to Anadarko.³³ After adjusting for ConocoPhillips's slightly smaller ownership stake in Shenandoah (i.e., ConocoPhillips's 30% vs. Anadarko's 33%),³⁴ Shenandoah's value to ConocoPhillips would have been \$2.5 billion.³⁵ This implies that we

³¹ Steinholt Rebuttal Report, ¶¶ 28-29.

³² Mr. Steinholt states that this is an estimate of the fully sanctioned value of Shenandoah. Steinholt Rebuttal Report, ¶ 23.

³³ \$2.8 billion = \$5 per share × 560.3 million Anadarko shares outstanding as of April 19, 2017. *See* Anadarko Petroleum Corporation Form 10-Q, March 31, 2017, cover page.

³⁴ Mr. Steinholt claims that "[w]hile ConocoPhillips' working interest (30%) was almost as high as that of Anadarko (33%), Anadarko had an operating interest and substantial control over the project, which resulted in a 'control premium' i.e., greater value as a result of being able to make decisions in line with one's investment objective." Steinholt Rebuttal Report, ¶ 27. A control premium is premised on the higher value of a controlling share when the controller uses its voting power to secure benefits for itself that would not be available to other shareholders (i.e., "private benefits from control"). *See, e.g.,* M. Barclay and C. Holderness, 1989, "Private Benefits From Control of Public Corporations," *Journal of Financial Economics*, Vol. 25, 371-395 & A. Dyck and L. Zingales, 2004, "Private Benefits of Control: An International Comparison," *Journal of Finance*, Vol. 59, 537-600. However, Mr. Steinholt does not provide any evidence that Anadarko had any private benefits from control. Contrary to Mr. Steinholt's claim, in fact, the partners would share the costs and, "[a]fter royalties are paid...share in production revenues...based on [their] percentage of working interest owned." Schlumberger Oilfield Glossary, https://glossary.oilfield.slb.com/en/terms/w/working_interest (last accessed June 11, 2024). Because Anadarko and ConocoPhillips's cash inflows and outflows would be in proportion to their working interest percentage, there is no reason to expect that Anadarko would have any private benefits from control and, therefore, command a control premium.

³⁵ \$2.5 billion = \$2.8 billion × (30% / 33%). ConocoPhillips's stake was 0.91 as large as Anadarko's stake (or 30% divided by 33%).

should have observed a 4.4% price decline for ConocoPhillips,³⁶ which would have been statistically significant.³⁷ However, ConocoPhillips's stock price movement was *not* statistically significant, which is further evidence of the lack of price impact.³⁸

16. Furthermore, Mr. Steinholt incorrectly claims that ConocoPhillips's announcement in July 2015 (i.e., 21 months prior to the alleged Corrective Disclosure) that it intended to reduce deepwater spending made Shenandoah "not as important to ConocoPhillips as to the operator Anadarko."³⁹ Mr. Steinholt's statement implies that an asset being "not as important" would somehow lead to a discounted price for the company's share in that asset. There is no economic basis for this assertion by Mr. Steinholt. First, the value of ConocoPhillips is equal to the sum of the value of all of its assets, which includes Shenandoah. Just like any asset, the value of Shenandoah is based on the present value of Shenandoah's expected future cash flows.⁴⁰ Mr. Steinholt does not explain, let alone establish, that ConocoPhillips's decision to exit deepwater exploration has any impact on Shenandoah's expected future cash flows. Second, there is also no reason to assume that ConocoPhillips was planning on selling its share in Shenandoah at fire sale prices. In fact, ConocoPhillips stated publicly that it planned to maintain its investment in Shenandoah and would consider selling its stake only if it could receive "full value" in return.⁴¹ I also reviewed ConocoPhillips analyst reports from May 2 to May 5, 2017 and I did not find any analysts stating that the impact of Shenandoah on ConocoPhillips was

³⁶ $4.4\% = \$2.5 \text{ billion} / \text{ConocoPhillips's market capitalization of } \$57.8 \text{ billion on May 2, 2017 per } \text{©2024 Center for Research in Security Prices (CRSP), The University of Chicago Booth School of Business.}$

³⁷ Mr. Steinholt states that, "for information to have a statistically significant impact on ConocoPhillips' stock price ... the new information would have to cause ConocoPhillips' stock price to change by at least 2.18%." Steinholt Rebuttal Report, ¶ 28.

³⁸ Ferrell Report, Tables 2, 3 & 4. On a cumulative basis, the abnormal return on May 2, 3, and 5 is $-0.64\% = (1 - 0.75\%) \times (1 + 0.71\%) \times (1 - 0.59\%) - 1$ and not statistically significant with a t-statistic of $-0.33 = (-0.68 + 0.64 - 0.53) / \text{sqrt}(3)$.

³⁹ Steinholt Rebuttal Report, ¶ 27 & "ConocoPhillips Announces Dividend Increase and Reductions in Future Deepwater Exploration Spending," *Business Wire*, July 16, 2015.

⁴⁰ See, e.g., T. Koller, M. Goedhart, and D. Wessels, 2020, *Valuation*, 7th ed. (Wiley), p. 370 ("... a company's value equals the present value of future cash flows, not sunk costs.").

⁴¹ "Q3 2015 ConocoPhillips Earnings Call – Final," *CQ FD Disclosure*, October 29, 2015 ("We're willing to stay in our discoveries if that's what maximizes the value. But we haven't made a commitment to exit deepwater per se... but if we saw full value for those assets then we'd certainly consider that.").

mented because of its exit from deepwater exploration.⁴² Given the above, there is no reliable economic basis to expect that ConocoPhillips's decision to exit deepwater exploration would have any impact on the value of Shenandoah to ConocoPhillips.

17. Mr. Steinholt also claims that ConocoPhillips is not a proper comparable because its disclosure on May 2, 2017 regarding Shenandoah was limited to the disclosure of a \$101 million dry-hole expense and does not include the news of the suspension of appraisal activity in Shenandoah.⁴³ Mr. Steinholt ignores that, in addition to the \$101 million dry-hole expense on May 2, 2017, ConocoPhillips disclosed after market close on May 4, 2017, an additional pre-tax dry hole expense of \$242 million and a pre-tax expense of \$51 million for leasehold improvement.⁴⁴ ConocoPhillips's abnormal return on May 2 and 5, 2017 are individually and cumulatively not statistically significant.⁴⁵ The lack of price movement in ConocoPhillips stock is also consistent with such expenses being sunk costs.

18. Finally, Anadarko included ConocoPhillips as part of its "peer group" with which it compared its stock price performance in its Forms 10-K throughout the Class Period.⁴⁶

19. Given the above and contrary to Mr. Steinholt's claims, analyzing ConocoPhillips's stock price movement following the alleged corrective disclosures is probative of the price impact on Anadarko of those same disclosures.

⁴² I reviewed 30 reports on ConocoPhillips available through Capital IQ, FactSet and LSEG Workplace (Refinitiv/Eikon) that were published on May 2-5, 2017. These sources did not list any reports on ConocoPhillips on May 6-7, 2017.

⁴³ Steinholt Rebuttal Report, ¶¶ 21-22.

⁴⁴ "ConocoPhillips Provides Update to First-Quarter 2017 Results Based on Subsequent Partner Disclosures and Information," *Business Wire*, May 4, 2017 (4:30 PM).

⁴⁵ Ferrell Report, Table 2 (showing an abnormal return on May 2, 2017 of -0.75% with a t-statistic of -0.68) & Table 4 (showing an abnormal return on May 5, 2017 of -0.59% with a t-statistic of -0.53). On a cumulative basis, the abnormal return on May 2 and 5, 2017 is -1.34% $(= (1 - 0.75\%) \times (1 + 0.71\%) - 1)$ and not statistically significant with a t-statistic of -0.86 $(= (-0.68 - 0.53) / \sqrt{2})$.

⁴⁶ See Anadarko Petroleum Corporation, Form 10-K, December 31, 2014, p. 47 & Anadarko Petroleum Corporation, Form 10-K, December 31, 2016, p. 51. See also, Deposition of Bjorn Steinholt, November 17, 2021 ("Steinholt Dep. Tr."), 15:5-8 (acknowledging that ConocoPhillips was mentioned as an Anadarko peer.)

D. Cobalt Is Not a Proper Comparator Because It Was Financially Distressed and Had Only a Small Fraction of the Market Capitalization of Anadarko.

20. Mr. Steinholt argues that, “[i]n contrast to ConocoPhillips, a more relevant Shenandoah partner to analyze is Cobalt.”⁴⁷ Even if one were to accept Mr. Steinholt’s claim, the economic evidence demonstrates that Cobalt’s residual price decline on May 3, 2017 of 11.26% following the alleged Corrective Disclosure does not accurately reflect the value of the Shenandoah news. As I explained in the Ferrell Report, leading up to May 2, 2017, Cobalt was experiencing (a) near-term liquidity constraints, (b) was at risk of being delisted from the New York Stock Exchange because the average closing price of its common stock had fallen below \$1.00 per share over a period of 30 consecutive days, (c) restructured its debt giving noteholders about 50 cents on the dollar for their old notes, and (d) its auditor stated in Cobalt’s Form 10-K filed on March 14, 2017 that “[t]he Company has near-term liquidity constraints that raises substantial doubt about its ability to continue as a going concern.”⁴⁸ Consistent with this, Mr. Steinholt acknowledges that Cobalt, at the time, was in financial distress.⁴⁹ As documented in the academic literature, stock prices of financially distressed firms are more risky than safe stocks, they are more sensitive to market movements (i.e., higher market betas), and their stock returns are “highly volatile.”⁵⁰ In other words, the returns of financially distressed stocks are affected differently than stocks of firms that are not in financial distress. Since Anadarko was not in financial distress at the time, Cobalt’s price movement on May 3, 2017 is not reflective of the price impact of the alleged corrective disclosures concerning Shenandoah on Anadarko.

21. Moreover, an 11.26% abnormal return for Cobalt translates to \$0.04 per share and, even assuming it reflects the loss of the value of Shenandoah, implies corresponding loss to

⁴⁷ Steinholt Rebuttal Report, ¶ 31.

⁴⁸ Ferrell Report, ¶ 58.

⁴⁹ Steinholt Rebuttal Report, ¶ 31.

⁵⁰ J. Campbell, J. Hilscher, and J. Szilagyi, 2011, “Predicting Financial Distress and the Performance of Distressed Stocks,” *Journal of Investment Management*, Vol. 9, 1-21, p. 4 (“Volatility (SIGMA) is a measure of the stock’s standard deviation over the previous three months. Not surprisingly, distressed firms’ stocks returns are highly volatile.”), p. 10 (“As expected, distressed stocks are more risky than safe stocks.”) & p. 17 (“We find that distressed stocks have significantly underperformed the S&P 500 and that they are risky—they have high levels of volatility and high market betas.”).

Anadarko's market capitalization of \$31 million.⁵¹ The associated price decline would have been only 0.1% of Anadarko's market capitalization as of May 2, 2017 of \$31.5 billion.⁵² A 0.1% stock price decline would *not* be statistically significant. This is further evidence of the "low to zero" value of Shenandoah and further buttresses my opinion of the lack of price impact.⁵³

22. Lastly, in contrast to ConocoPhillips, Anadarko did not include Cobalt as part of its "peer group" with which it compared its stock price performance in its Forms 10-K throughout the Class Period. A criteria Anadarko appears to use to identify members of its "peer group" is the company's relative size.⁵⁴ As **Figure 1** shows, as of May 2, 2017, Cobalt's market capitalization is substantially smaller than the market capitalization of Anadarko and ConocoPhillips.

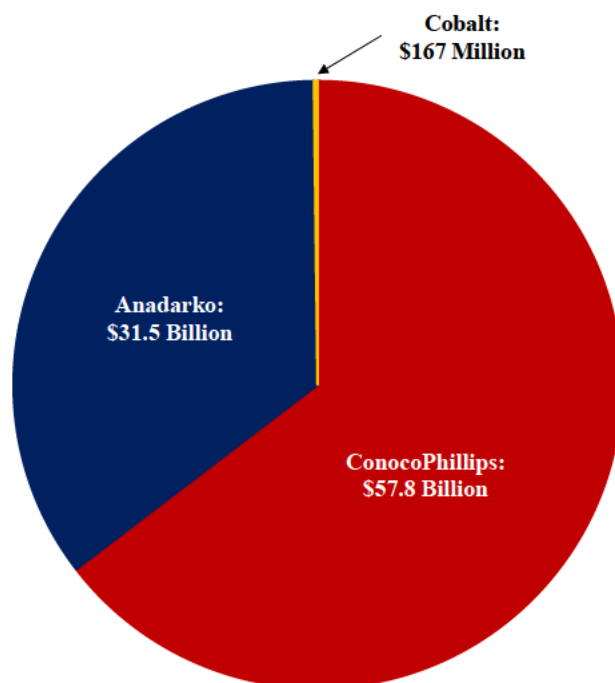
⁵¹ Cobalt's market capitalization decline is \$18.8 million (= -11.26% Cobalt's abnormal return on May 3, 2017 × \$167 million Cobalt's market capitalization on May 2, 2017). Ferrell Report Table 3. Adjusting for the difference between Cobalt's 20% working interest in Shenandoah and Anadarko's 33% working interest, this implies a market capitalization impact on Anadarko of \$31.0 million (= \$18.8 million × (33% / 20%)).

⁵² 0.1% = \$31.0 million / \$31.5 billion market capitalization. Steinholt Rebuttal Report, ¶ 22.

⁵³ See *supra* ¶ 14.

⁵⁴ In its 2016 Form 10-K, Anadarko noted that Murphy Oil was removed from the 2016 peer group "due to it being low in relative size," and Cobalt is much smaller than Murphy Oil. According to Capital IQ data, as of December 31, 2016, Murphy Oil had a market capitalization of \$5.4 billion while Cobalt had a market capitalization of \$537 million – i.e., 10% of Murphy Oil's size. See Anadarko Petroleum Corporation, Form 10-K, December 31, 2014, p. 47 & Anadarko Petroleum Corporation, Form 10-K, December 31, 2016, p. 51.

Figure 1
Anadarko, ConocoPhillips, and Cobalt
Market Capitalization on May 2, 2017



Sources: Anadarko market capitalization per Steinholt Report, ¶ 22; ConocoPhillips and Cobalt market capitalization per ©2024 Center for Research in Security Prices (CRSP), The University of Chicago Booth School of Business.

23. Given the above, contrary to Mr. Steinholt’s claim, there is no reliable economic basis to assume that the stock price reaction of investors in Cobalt to news about Shenandoah is reflective of the stock price reaction of investors in Anadarko (if any) to news about Shenandoah.

E. Mr. Steinholt’s Conclusions From After-Market Trading in Anadarko’s Stock Are Based on Incorrect Facts and Without an Analysis of Market Efficiency of Anadarko’s After-Market Trading and an Event Study Analysis.

24. Citing a single *Bloomberg* article,⁵⁵ Mr. Steinholt states that “Anadarko’s stock price declined 4.1% in after-market trading on May 2, 2017, after the Corrective Disclosure, but

⁵⁵ Steinholt Rebuttal Report, fn. 90. Mr. Steinholt also points to a second *Bloomberg* article published at 4:24 PM which says “[s]hares down 3.5% since earnings release” but does not rely on it for his conclusion that “Anadarko’s stock price declined 4.1% in after-market trading on May 2, 2017.” Steinholt Rebuttal Report, fn. 89 and ¶ 7.

before the lone confounding factor identified by Dr. Ferrell.”^{56, 57} From this, he concludes that news related to the Firestone, Colorado fire “identified by Dr. Ferrell could not have caused the earlier 4.1% decline in Anadarko’s stock price.”⁵⁸ Mr. Steinholt’s conclusion, which is not based on any independent analysis of after-market trading, is misleading and flawed for several reasons.

25. First, Mr. Steinholt’s chronology of the disclosure is wrong. Mr. Steinholt claims that “the decline in Anadarko’s stock price occurred before the first Firestone [Colorado] news identified by Dr. Ferrell, a *Denver Post* article published at 4:51 PM,” which reported on the results of the Firestone, Colorado fire department’s investigation that a “fatal house explosion was caused by odorless gas seeping from a cut-off underground pipeline...running from an Anadarko Petroleum well near the house.”⁵⁹ However, this claim by Mr. Steinholt is false and misleading. In the Ferrell Report, I never claimed that the first Firestone disclosure was at 4:51 PM. Nor did I claim to report a complete chronology of the events that transpired after market close on May 2, 2017, which would have been clear even by a cursory review of the market evidence. Because I was not looking at after-market trading – because it is not reliably informative– the timeline of after-market disclosures was not critical to any of my opinions in the Ferrell Report. I only provided the *Denver Post* article as evidence of news unrelated to the alleged Corrective Disclosure that was also disclosed after market close. Mr. Steinholt ignores that the news in the *Denver Post* article was disclosed as early as 4:03 PM, prior to Anadarko’s 1Q 2017 earnings release at 4:16 PM.⁶⁰

⁵⁶ Steinholt Rebuttal Report, ¶ 7.

⁵⁷ Mr. Steinholt is also wrong in claiming that the “lone” confounding factor I identified is the news related to the Firestone, Colorado fire. In the Ferrell Report, I explained that another confounding factor was Anadarko’s soft production guidance, which some analysts viewed as a negative. *See* Ferrell Report, ¶ 67.

⁵⁸ Steinholt Rebuttal Report, ¶ 38.

⁵⁹ Steinholt Rebuttal Report, ¶ 38 & “Deadly Firestone explosion caused by odorless gas leaking from cut gas flow pipeline,” *The Denver Post*, May 2, 2017 (4:51 PM).

⁶⁰ Firestone, Colorado fire officials held a press conference which started at approximately 4:03 PM and reporters disseminated the information on the results of the Firestone, Colorado fire officials’ investigation as to the cause of the fatal house explosion in real time prior to 4:16 PM. *See, e.g.*, Denver 7 News tweet at 4:03 PM (“WATCH LIVE: Officials are providing an update on last month’s home explosion in Firestone.”). [@DenverChannel]. (2017, May 2, 4:03 PM); Denver 7 News tweet at 4:11 PM

26. Specifically, shortly after the market close at 4:03 PM on May 2, 2017, a Denver 7 News tweet to “WATCH LIVE” the update being provided by the Firestone, Colorado fire officials that disclosed for the first time the results of the Firestone, Colorado fire officials’ investigation as to the cause of the fatal house explosion on April 17, 2017.⁶¹ The tweet had a link to a live stream of the press conference on the Denver 7 News website and there was also a live stream of the press conference on Denver 7’s Facebook page, which showed that the press conference began at 4:02 PM on May 2, 2017.⁶² Reporters also disseminated the information on the results of the fire officials’ investigation in real time.⁶³ Specifically, the fire investigators found that the explosion was caused by odorless gas seeping from a cut-off underground pipeline running from an Anadarko well into the house.⁶⁴ Soon after the firefighters released their report,

(“Officials: Firestone home explosion caused by gas leaking into home from abandoned flow line.”) [@DenverChannel]. (2017, May 2, 4:11 PM) & reporter Kevin Vaughn tweet at 4:09 PM (“Cause of deadly Firestone home explosion was a cut line to an oil and gas well.”) [@writerkev]. (2017, May 2, 4:09 PM). It was previously known that there was a pipeline from an Anadarko well near the house that exploded, but the cause of the explosion had not been disclosed until the press conference on May 2, 2017. *See* “Oil-gas wells shut down after Colorado home explosion,” *Associated Press*, April 26, 2017 (“Anadarko Petroleum said it operated a 24-year-old well about 200 feet (60 meters) from the site of the April 17 explosion and fire in the town of Firestone. Fire department investigators said the well is part of their inquiry but they haven’t determined the cause of the explosion.”).

⁶¹ *See, e.g.*, Denver 7 News tweet at 4:03 PM (“WATCH LIVE: Officials are providing an update on last month’s home explosion in Firestone.”). [@DenverChannel]. (2017, May 2, 4:03 PM); “Lots of Unknowns, But Two Key Facts from DJ Basin Incident – ALERT,” J.P. Morgan, April 26, 2017. *See also*, “Colorado Uncertainty,” Morgan Stanley, April 27, 2017 (“The event is under an investigation by authorities and no conclusion has been reached as to its cause.”); “APC Reports Downtime in Wattenberg,” Capital One Securities, April 27, 2017 (“The cause of the explosion is still unknown.”) & “APC Colorado Shut-Ins,” Evercore ISI, April 27, 2017 (“Unknowns remain in regards to the causes and implications of the proactive announcement by APC and the event in question.”).

⁶² Denver 7 News tweet at 4:03 PM (“WATCH LIVE: Officials are providing an update on last month’s home explosion in Firestone.”). [@DenverChannel]. (2017, May 2, 4:03 PM); Denver 7 News, “Latest on Firestone home explosion investigation,” <https://www.facebook.com/Denver7News/videos/latest-on-firestone-home-explosion-investigation/10154807218543271/> (last accessed June 11, 2024).

⁶³ *See, e.g.*, Denver 7 News tweet at 4:11 PM (“Officials: Firestone home explosion caused by gas leaking into home from abandoned flow line.”) [@DenverChannel]. (2017, May 2, 4:11 PM) & reporter Kevin Vaughn tweet at 4:09 PM (“Cause of deadly Firestone home explosion was a cut line to an oil and gas well.”) [@writerkev]. (2017, May 2, 4:09 PM).

⁶⁴ “Deadly Firestone explosion caused by odorless gas leaking from cut gas flow pipeline,” *Denver Post*, May 2, 2017 (4:51 PM).

then Colorado Governor John Hickenlooper ordered oil and gas companies statewide to inspect and pressure-test oil and gas flowlines within 1,000 feet of occupied buildings.⁶⁵

27. Therefore, Mr. Steinholt is just factually wrong that the 4.1% decline could not have been the result of news related to the Firestone, Colorado fire.

28. Second, Mr. Steinholt does not establish that the after-market trading of Anadarko stock was efficient, as would be required to draw any reliable conclusion from Anadarko's after-market stock price movements. In the Steinholt Report, he performs a market efficiency analysis of Anadarko stock over the entire trading day (i.e., close-to-close) by analyzing numerous indicators of market efficiency.⁶⁶ By contrast, Mr. Steinholt does not look at even one of those indicators of market efficiency for after-market trading in Anadarko stock. Even if one finds that the entire trading day is efficient, it does not follow that the after-market trading is efficient because the characteristics of after-market trading are different than regular trading hours. As market commentators have noted:⁶⁷

- “One big problem with extended-hours trading is that there are far fewer participants in the markets during those times than there are during regular hours. That means it can be difficult for investors to find a match for a trade they want to make at the price they want. It also means that share prices can be more volatile during extended hours.”⁶⁸
- “After-hours trading comes with several risks not associated with trading on an exchange during regular trading sessions.... During a normal trading session, you'll get the best available price from multiple venues. But after-hours sessions limit your price discovery

⁶⁵ “Deadly Firestone explosion caused by odorless gas leaking from cut gas flow pipeline,” *Denver Post*, May 2, 2017 (4:51 PM) (“Fire investigators found a 1-inch diameter black plastic pipeline running from an Anadarko Petroleum well near the house that had been cut when a tank battery was moved before the Oak Meadows subdivision was built, Poszywak said. That pipeline leaked the gas from a point 6 feet from the southeast corner of the house at 6312 Twilight Ave. in Firestone. Investigators said they found the gas valve at the Anadarko well in the ‘on’ position.”).

⁶⁶ Steinholt Report, ¶¶ 19-52.

⁶⁷ Moreover, studies using after-market trading data clean the data to exclude trades that (i) were made during regular trading hours that were only reported after market hours (i.e., late reported trades), (ii) use a prior reference price, and (iii) were sold out of sequence. *See, e.g.*, Internet Appendix to V. Gregoire and C. Martineau, 2022, “How Is Earnings News Transmitted to Stock Prices?,” *Journal of Accounting Research*, Vol. 60, 261-297 (excluded trades that are considered “Sold Last (Late Reporting),” “Prior Reference Price,” “Extended Hours (Sold Out of Sequence),” “Sold (Out of Sequence),” and “Derivatively Priced.”) & E. Li, K. Ramesh, M. Shen, J. Wu, 2013, “Do Analyst Stock Recommendations Piggyback on Recent Corporate News? An Analysis of Regular-Hour and After-Hours Revisions,” Working Paper. Mr. Steinholt did no such cleaning of the after-market data he relies on here.

⁶⁸ “The Perils of After-Hours Stock Trading,” *The Wall Street Journal*, April 7, 2019.

to just one network.... Not only are you limited to the ECN your broker uses, there are fewer market participants in after-hours session.. As a result, there's limited liquidity for most stocks. That creates wider bid-ask spreads.... When everyone's trying to react to a news item all at once, a stock will trade wildly in the after-hours session. The market will work to digest the news and discover a new price for the security.”⁶⁹

- “Trading is a very different animal after 4:00 pm ET. The available liquidity is thinner, spreads are wider, and volatility is higher. Once the closing price is established for a listed stock or ETF at the 4:00 pm close, market participants frequently want additional liquidity – but many simply can't find what they need in the after-hours market to effectively execute their strategies.”⁷⁰

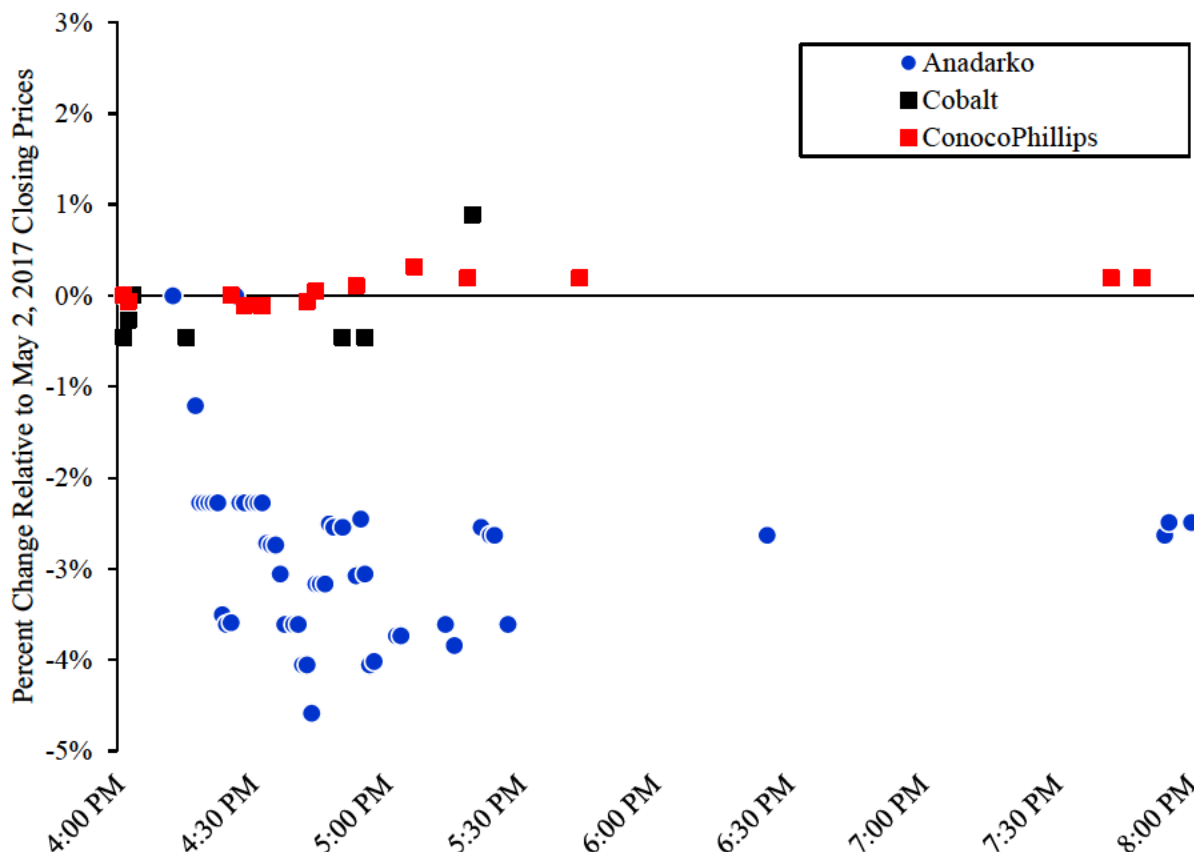
29. Third, Mr. Steinholt did not perform an event study on Anadarko's after-market trading. Consequently, the 4.1% decline Mr. Steinholt relies upon is not adjusted for market and industry factors and cannot be tested for statistical significance. In fact, Mr. Steinholt does not even purport to opine that the 4.1% drop was statistically significant (i.e., whether the return is statistically different from zero).

30. Finally, even if one were to ignore these fatal flaws and assume that the after-market trading activity could be relied upon to draw conclusions about price impact – a closer look at the after-market trading data on May 2, 2017 contradicts Mr. Steinholt's conclusion that the alleged Corrective Disclosure had a price impact on Anadarko stock and further supports the price impact of the news related to the Firestone, Colorado fire. If the alleged Corrective Disclosure had a price impact, I would expect to see a price decline in ConocoPhillips and Cobalt's stock prices after-market hours on May 2, 2017. To the contrary, the after-market hours trading data on May 2, 2017 shows that ConocoPhillips's and Cobalt's stock prices were relatively flat, consistent with the conclusion that the alleged Corrective Disclosure did not have a price impact. *See Figure 2.*

⁶⁹ “After-Hours Trading: What It Is and How It Works,” *The Motley Fool*, updated November 13, 2023, <https://www.fool.com/terms/a/after-hours-trading/> (last accessed June 11, 2024).

⁷⁰ “Will Nasdaq's New Extended Trading Close (ETC) Transform After-Hours Trading?” *Institutional Investor*, February 15, 2022.

Figure 2
Anadarko, ConocoPhillips, and Cobalt
Percent Change Relative to Each Company's May 2, 2017 Closing Price



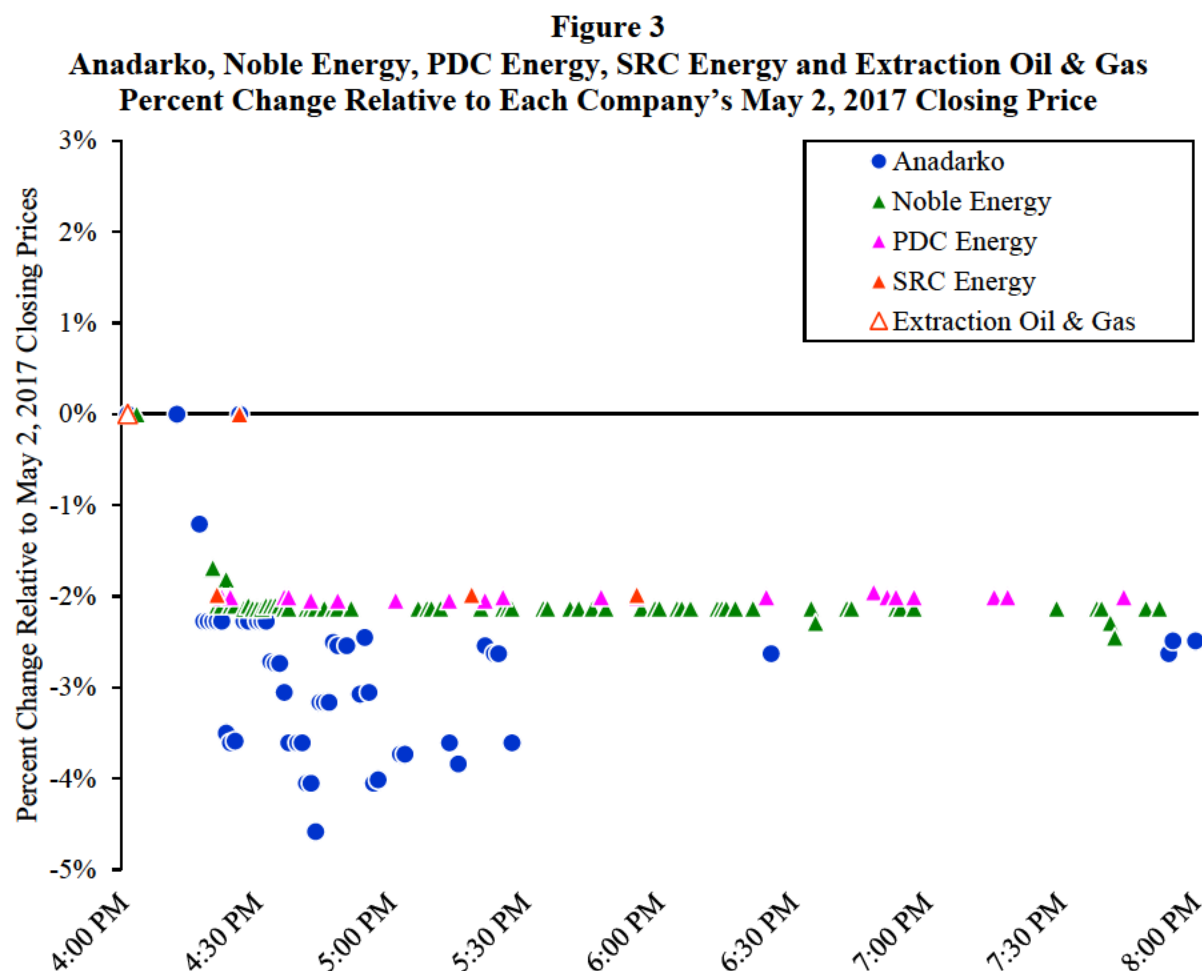
Notes and Sources: The percent change reported above is calculated based on each company's closing price on May 2, 2017 per CRSP. The markers represent the last trade of each minute in which a trade occurs per Tick Data. We report after-market trades after removing the trades that Tick Data recommends be excluded.⁷¹

31. Also, if the news about the Firestone, Colorado fire had a price impact, I would expect to see a price decline in the Colorado peers' stock prices after-market hours on May 2, 2017. Consistent with this, and like Anadarko, the stock prices of Noble, PDC Energy and SRC Energy (i.e., the three companies in Mr. Steinholt's Colorado Peer Group⁷²) fell during after-

⁷¹ US Equity Trade, Quote & One-Minute Dataset v4.0, Copyright © Tick Data, LLC, p. 6.

⁷² Steinholt Rebuttal Report, fn. 103.

market hours trading on May 2, 2017, consistent with the conclusion that the news related to the Firestone, Colorado fire had a price impact.⁷³ See **Figure 3**.



Notes and Sources: The percent change reported above is calculated based on each company's closing price on May 2, 2017 per CRSP. The markers represent the last trade of each minute in which a trade occurs per Tick Data. We report after-market trades after removing the trades that Tick Data recommends be excluded.⁷⁴

F. Mr. Steinholt's New Event Study Does Not Control For the News Related to the Firestone, Colorado Fire and Is Otherwise Unreliable Because It Relies on an Unsound Methodology.

32. In his original report, Mr. Steinholt's event study model uses the S&P 500 Index (market index) and a portfolio of "Anadarko's peers" (oil industry index) to control for market

⁷³ On May 2, 2017, Extraction Oil & Gas only had two trades between 4:00 PM and 4:01 PM and did not have any trades after 4:01 PM per Tick Data.

⁷⁴ US Equity Trade, Quote & One-Minute Dataset v4.0, Copyright © Tick Data, LLC, p. 6.

and industry factors, respectively.⁷⁵ This original model finds Anadarko's abnormal return on April 27, 2017 (i.e., a date when news about the Firestone, Colorado fire was released) to be statistically significant. In the Steinholt Rebuttal Report, Mr. Steinholt proffers a new event study model. His second event study model uses the S&P 500 Index (market index) to control for market factors but now uses an equal-weighted portfolio of Noble, SRC Energy, and PDC Energy ("Colorado Peer Group") to purportedly control for Firestone, Colorado issues and does not include the oil industry index from his original report.⁷⁶ This second model does not find Anadarko's abnormal return on April 27, 2017 to be statistically significant.⁷⁷ From this observation, Mr. Steinholt claims that his "event study now controls for the [news related to the Firestone, Colorado fire] as it was designed to do."⁷⁸ However, as I explain below, Mr. Steinholt's claim is misleading and flawed.

33. As an initial matter, Mr. Steinholt claims that Anadarko's connection to the Firestone, Colorado fire was first disclosed on April 27, 2017; not May 2, 2017.⁷⁹ He is implying that the information on May 2, 2017 related to the Firestone, Colorado fire was stale and, thus, in an efficient market, is not expected to affect Anadarko's stock price on May 3, 2017. This claim by Mr. Steinholt, however, is flawed because there was new information related to the Firestone, Colorado fire that was disclosed after market close on May 2, 2017. As noted by Morgan Stanley, the May 2, 2017 disclosure was that "authorities (Frederick-Firestone Protection District) *concluded* that APC's well sourced the gas that caused the April 17 explosion and subsequent fire destroying a home and killing 2 people in Firestone, CO," while the "[p]otential *association* of the fire to the APC well occurred on April 27, after APC voluntarily shut-in 3k producing wells for inspection" (emphasis added).⁸⁰ In other words, Mr. Steinholt is incorrectly

⁷⁵ Steinholt Report, ¶ 37.

⁷⁶ Steinholt Rebuttal Report, ¶ 44 (stating that the "Colorado Peer Group was specifically designed to make sure that factors related to increased regulatory concerns in Colorado as a result of the Firestone explosion were reflected and accounted for in the index.").

⁷⁷ Steinholt Rebuttal Report, ¶ 45.

⁷⁸ Steinholt Rebuttal Report, ¶ 45.

⁷⁹ Steinholt Rebuttal Report, ¶ 35.

⁸⁰ "1Q17: Headwinds Accumulate; Move to EW," Morgan Stanley, May 3, 2017. *See also* "APC Statement on Colorado Explosion," Wells Fargo, April 27, 2017; "Lots of Unknowns, But Two Key Facts from DJ Basin Incident - ALERT," JP Morgan, April 27, 2017 (showing that, on April 7, 2017, the

equating a disclosure of a “potential association” to an Anadarko well with the conclusion that it was an Anadarko well. In addition, Mr. Steinholt also ignores that, soon after the firefighters released their report, Colorado Governor John Hickenlooper ordered oil and gas companies statewide to inspect and pressure-test oil and gas flowlines within 1,000 feet of occupied buildings⁸¹ – i.e., the Colorado Governor’s order was new information that was not disclosed on April 27, 2017.

34. Moreover, the economic evidence further supports the value-relevance of the Firestone, Colorado fire news on May 2, 2017. For example, Morgan Stanley stated: “Colorado authorities determined last night that gas related to an APC well caused 4/17 home explosion. While liability is undetermined, we lower PT to \$74/sh [from \$89] and rating to EW to reflect higher asset risk. ... Our adjusted PT primarily reflects increased risk of DJ locations and a correspondingly lower out-year rig count due to shallower inventory in our NAV estimate. It also assumes lower multiple expansion due to potential regulatory headwinds and overhang.”⁸² Furthermore, the findings of the event studies I performed on each of the other Colorado operators – Noble, PDC Energy, SRC Energy, and Extraction Oil & Gas – are also consistent with the Firestone, Colorado fire news being new, value-relevant information, as I found that all four Colorado operators fell by a statistically significant amount on May 3, 2017 (which Mr. Steinholt does not dispute).⁸³

35. Mr. Steinholt’s claim that his “event study now controls” for the news related to the Firestone, Colorado fire is misleading because his second event study is inconsistent with his original event study. In the Steinholt Report, his event study model uses a market index and an oil industry index to establish that Anadarko’s stock price movement was significantly impacted

Firestone, Colorado fire department investigation was still ongoing); “APC-Investigation Links Incident to Abandoned Gas Flow Line, RBC, May 2, 2017 (“an investigation by the Frederick-Firestone Fire Department attributed an April 17 home explosion to an abandoned gas flow line”) & “When It Rains, It Pours,” Deutsche Bank, May 3, 2017 (“Earlier this evening, investigators reported that the cause of the deadly Firestone home explosion was an uncapped gas pipeline that had remained attached to an abandoned APC well.”).

⁸¹ “Deadly Firestone explosion caused by odorless gas leaking from cut gas flow pipeline,” *Denver Post*, May 2, 2017 (4:51 PM).

⁸² “1Q17: Headwinds Accumulate; Move to EW,” Morgan Stanley, May 3, 2017.

⁸³ Ferrell Report, Figure 1.

after controlling for market and industry factors.⁸⁴ By contrast, his second event study inexplicably does not control for the industry impact on Anadarko because he replaces the oil industry index with his Colorado Peer Group, which he claims “controls for the Firestone issue.”⁸⁵ If Mr. Steinholt simply added his Colorado Peer Group to his original event study (i.e., a three-factor model with the market index, oil industry index, and the Colorado Peer Group), which presumably would have controlled for market, industry, and Firestone issues, he would have found April 27, 2017 to still be statistically significant. This means that, based on Mr. Steinholt’s own test, he would have concluded that his event study does not appropriately control for the news related to the Firestone, Colorado fire.⁸⁶ Thus, to achieve his desired result, Mr. Steinholt relies upon changing his event study model completely by cherry-picking which factors to include or exclude from his event study model (i.e., replacing his oil industry index with his Colorado Peer Group).⁸⁷

36. In any event, adding Mr. Steinholt’s Colorado Peer Group to any event study model is not appropriate to control for the effects of the Firestone, Colorado fire. The Firestone, Colorado fire is a one-time event which did not occur until April 17, 2017 (i.e., there are no fires affecting the Colorado operators every day), and its impact on Anadarko would not be accurately captured by a regression model that uses historical daily data going back to April 27, 2016.⁸⁸ That is, the regression model used by Mr. Steinholt in his second event study cannot be used to predict the expected price movement of Anadarko when there is a Firestone, Colorado fire in order to assess whether its price response on April 27, 2017 is abnormal. As such, Mr. Steinholt’s second event study model is not methodologically sound.

⁸⁴ Steinholt Report, ¶ 37.

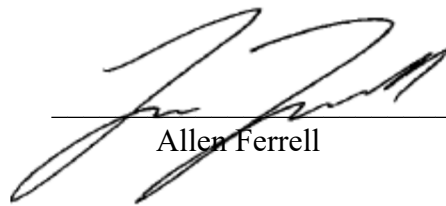
⁸⁵ Steinholt Rebuttal Report, ¶ 45.

⁸⁶ In deposition testimony, Mr. Steinholt appears to suggest that if his analysis took into account the alleged fraud he would have not included ConocoPhillips in his peer group. Steinholt Dep. Tr., 15:2-8 & 25:17-22. Thus, for purposes of the above analysis, I modified Mr. Steinholt’s industry index to exclude ConocoPhillips. The results are qualitatively similar whether I included or excluded ConocoPhillips from the oil industry index.

⁸⁷ Steinholt Rebuttal Report, fn. 103.

⁸⁸ Mr. Steinholt’s second event study model determines the statistical relationship between Anadarko’s stock price returns and the returns of the Colorado Peer Group during the 252-trading day period prior to April 27, 2017. Steinholt Rebuttal Report, fn. 103. However, 97% of the trading days (244 of 252 trading days) in his control period occurred prior to the Firestone, Colorado fire on April 17, 2017.

37. In addition, the regression model would still not account for the disproportionate effect of the news about the Firestone, Colorado fire on Anadarko relative to the members of the Colorado Peer Group. This is because the Colorado Peer Group, at best, reflects the average effect of the news related to the Firestone, Colorado fire on the Colorado Peers. As I explained in the Ferrell Report, Colorado fire officials linked the cause of the house explosion to an Anadarko well and Anadarko was the largest oil and gas producer in Colorado at the time.⁸⁹ Thus, I would expect Anadarko to be more affected than the average effect of the news related to the Firestone, Colorado fire on the Colorado Peers.



Allen Ferrell

Dated: June 12, 2024

⁸⁹ Ferrell Report, ¶ 65.

Appendix 1

June, 2024

Allen Ferrell

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CURRENT POSITIONS

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Visiting Professor, Stanford Law School

National Bureau of Economic Research, Research Associate

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Faculty Associate, Kennedy School of Government

Research Associate, European Corporate Governance Institute

EDUCATION

Massachusetts Institute of Technology, Ph.D. in Economics, 2005
Fields in econometrics and finance

Harvard Law School, J.D., 1995, *Magna Cum Laude*

- Recipient of the *Sears Prize* (award given to the two students with the highest grades)
- Editor, *Harvard Law Review*

Brown University, B.A. and M.A., 1992, *Magna Cum Laude*

PREVIOUS POSITIONS

Harvard University Fellow
Harvard Law School, 1997

Law Clerk, Justice Anthony M. Kennedy
Supreme Court of the United States; 1996 Term

Law Clerk, Honorable Laurence H. Silberman
United States Court of Appeals for the District of Columbia; 1995 Term

COURSES TAUGHT

Blockchain & Cryptocurrencies
Corporate Finance
Law and Finance
Securities Litigation & Regulation
Contracts

REFeree FOR FOLLOWING JOURNALS

American Law and Economics Review
Journal of Corporation Finance
Journal of Finance
Journal of Financial Perspectives
Journal of Law and Economics
Journal of Law, Economics and Organization
Journal of Legal Studies
Quarterly Journal of Economics

CONSULTING AREAS

Price Impact and Securities Damages, Valuation, Mergers & Acquisitions

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All other data and documents referenced in this report.

Exhibit B

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UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION
Case No. 4:20-CV-576
- - - - -x
IN RE: ANADARKO PETROLEUM CORPORATE
SECURITIES LITIGATION
- - - - -x

December 21, 2022
9:08 a.m. (PST)

REMOTE VIDEOTAPED DEPOSITION of BJORN
STEINHOLT, an Expert Witness, in the
above-entitled action, held at the above
time and place, taken before Dawn Matera,
a Shorthand Reporter and Notary Public of
the State of New York.

* * *

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23 Also Present:

24 MARC FRIEDMAN, Videographer
25 KALLIE GALLAGHER

1 A. Yes.

2 Q. I take it you analyzed the
3 market for Anadarko stock during the
4 class period and found it to be
5 efficient?

6 A. That's correct, yes.

7 Q. And that's on a close-to-close
8 basis?

9 A. And sufficient in context of
10 reliance using the standard Cammer and
11 Krogman factors that we used, yes.

12 Q. Did you separately analyze the
13 aftermarket to determine whether the
14 aftermarket was efficient?

15 A. Well, the Cammer and Krogman
16 factors are not really suited to do that
17 type of an analysis.

18 On one hand, you can say you
19 have the same number of analysts covering
20 the stock, for instance. You can look at
21 things such as institutional investor.
22 It's going to be the same. So some of
23 these factors are exactly the same. But
24 it's not particularly designed to
25 determine whether or not the stock prices

1 react quickly to new information.

2 What I observed is that, in the
3 case of Anadarko, it did react, there was
4 a quick reaction to that, the information
5 that was released, the earnings
6 announcement that was released. And I
7 mention that in my report. So there is
8 evidence that investors reacted quickly
9 to that information.

10 But in terms of actually
11 quantifying price impact, I used the
12 close to close, the standard way of
13 looking at it. And that's what I used in
14 order to quantify the inflation. So I am
15 not quite sure in terms of what type of
16 analysis would be required in a reliance
17 context to analyze aftermarket trading.

18 Q. Let's focus in on the
19 aftermarket trading in Anadarko stock
20 that took place on, I believe, May 2nd,
21 2017. Are you with me?

22 A. Yes.

23 Q. What was the volume, what was
24 the trading volume in the aftermarket
25 that day as compared to the subsequent

1 trading day, May 3rd, 2017?

2 A. I don't know.

3 Q. Do you know if it was more or
4 less?

5 A. You mean aftermarket trading
6 volume?

7 Q. Yes.

8 A. I have not analyzed anything
9 other than the data that was provided to
10 me by the defendants' expert, which was
11 the aftermarket trading on May 2nd of
12 2017. It was something that he brought
13 up. And when I looked at it, it was
14 clear that exactly at the time of the
15 earnings announcement, there was, the
16 stock price of Anadarko started to move
17 down.

18 Q. And did you look to see if
19 there were marketmakers acting in the
20 aftermarket that day, May 2nd, 2017?

21 A. I only responded to the data
22 that was provided to me by your expert.

23 Q. And did you look to see if
24 there were arbitragers operating in the
25 aftermarket on May 2nd, 2017?

1 A. I have not looked at anything
2 other than observing that exactly at the
3 time of the earnings announcement in a
4 couple of minutes there, there were half
5 a million shares that traded and the
6 stock was down.

7 Q. Did you look to see if there
8 were any analyst reports that were issued
9 that evening after the market closed on
10 May 2nd, 2017, with respect to Anadarko?

11 A. I have mentioned analyst
12 reports issued discussing the earnings
13 release on May 2nd in my report. So yes,
14 we know that there were analysts that
15 were following the company and provided
16 commentary on March 2nd, 2017.

17 Q. Could you turn in your most
18 recent report, Exhibit 503, to paragraph
19 92, please? Do you have that?

20 A. Yes.

21 Q. In paragraph 92 you refer to a
22 "Wells Fargo equity research report"; do
23 you see that?

24 A. Yes.

25 Q. And is that the report you were

Exhibit C

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UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

In re ANADARKO PETROLEUM	§	Civil Action No. 4:20-cv-00576
CORPORATION SECURITIES LITIGATION	§	
<hr/>	§	<u>CLASS ACTION</u>
	§	The Honorable Charles R. Eskridge III

EXPERT REPORT OF BJORN I. STEINHOLT, CFA
NOVEMBER 9, 2022

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I. INTRODUCTION AND QUALIFICATIONS

1. I am a Managing Director at Caliber Advisors, Inc. (“Caliber”), a full-service valuation and economic consulting firm with offices in San Diego, California and Chicago, Illinois. Prior to Caliber, I was a founding Principal of Financial Markets Analysis (“FMA,”), an economic consulting, valuation and litigation support firm focusing on securities litigation consulting. Prior to FMA, I was a Vice President and then Principal at Business Valuation Services (“BVS”), a national full-service financial valuation firm that was part of publicly traded CBIZ, Inc. (NYSE: CBZ). Prior to BVS, I was a Financial Analyst, Vice President and Senior Vice President in the San Diego office of Princeton Venture Research, Inc. (“PVR”), a national investment banking, venture capital and litigation support firm. Prior to PVR, I was a Graduate Fellow performing investment research at the University of San Diego.

2. I have more than 30 years of experience providing capital markets consulting, including analyzing and valuing investments. Over the past 20 years, I have been retained on numerous occasions to provide expert opinions relating to market efficiency, materiality, loss causation and damages in large and complex securities class actions similar to this litigation. In *Gruber v. Gilbertson, et al.*, No. 1:16-cv-09727 (S.D.N.Y.), I provided trial testimony relating to loss causation and damages on behalf of plaintiff, resulting in an award of damages by the jury earlier this year. In *In re China Intelligent Lighting & Elecs., Inc.*, No. 2:11-cv-02768 (C.D. Cal.), the court entered its judgment based on my aggregate damages estimate. In *Jaffe v. Household Int’l Inc., et al.*, No. 1:02-cv-05893 (N.D. Ill.), the court adopted my guidance in calculating pre-judgment interest. In *In re Novatel Wireless Sec. Litig.*, No. 3:08-cv-01689 (S.D. Cal.), the court undertook a rigorous *Daubert* analysis of every element of my loss causation analysis and damages methodology and found that “Steinholt’s testimony on loss causation and damages, based on his event study analysis, is reasonable and reliable.” In *Willis, et al. v. Big Lots, Inc., et al.*, No. 2:12-

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cv-00604 (S.D. Ohio), the court concluded that “Steinholt has set forth a methodology for later calculating damages on a class-wide basis . . . and explained how it is both workable and consistent with Plaintiffs’ theory of liability in this particular case,” and that my class-wide damages opinion was “both relevant and reliable.”

3. Other courts have similarly found my testimony admissible, including in *New England Health, et al. v. Qwest Commc’ns Int’l Inc., et al.*, No. 1:01-cv-01451 (D. Colo.); *Employer-Teamsters Joint Council No. 84 Pension Tr. Fund, et al. v. Am. W. Holdings Corp., et al.*, No. 2:99-cv-00399 (D. Ariz.); *Nursing Home Pension Fund, et al. v. Oracle Corp., et al.*, No. 3:01-cv-00988 (N.D. Cal.); and *Carson, et al. v. Neopharm Inc., et al.*, No. 1:02-cv-02976 (N.D. Ill.). Furthermore, several other courts have cited my testimony in support of their decisions, including in *In re Healthsouth Corp. Sec. Litig.*, No. 2:03-cv-01501 (N.D. Ala.); *Luman v. Anderson, et al.*, No. 4:08-cv-00514 (W.D. Mo.); *Abu Dhabi Com. Bank, et al. v. Morgan Stanley & Co. Inc., et al.*, No. 1:08-cv-07508 (S.D.N.Y.); *Smilovits v. First Solar, Inc., et al.*, No. 2:12-cv-00555 (D. Ariz.); *Marcus v. J.C. Penney Co., Inc., et al.*, No. 6:13-cv-00736 (E.D. Tex.); *Villella, et al. v. Chem. & Mining Co. of Chile, Inc., et al.*, No. 1:15-cv-02106 (S.D.N.Y.); and *Purple Mountain Tr. v. Wells Fargo & Co., et al.*, No. 3:18-cv-03948 (N.D. Cal.).

4. I received a Master of International Business degree from the University of San Diego and a Bachelor of Science degree in Computer Science and Engineering from California State University, Long Beach. In addition to my graduate business degree and my engineering degree, I have earned the professional designation of Chartered Financial Analyst (“CFA”) awarded by the CFA Institute, and I participate in its continuing education program. The CFA designation is a qualification for finance and investment professionals focusing on investment

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management and securities analysis of common stock, fixed income and other investments. A summary of my background and qualifications is attached as Exhibit A to this report.

5. On October 1, 2021, I submitted an expert report in this case that included various analyses demonstrating that new and material information about Anadarko Petroleum Corporation (“Anadarko,” “APC,” or the “Company”) was widely disseminated to the market, analyzed by market participants and traded on, causing the information to quickly become reflected in the Company’s stock price.¹ Specifically, I concluded that (a) the market in which Anadarko common stock traded during the period from February 20, 2015 through May 2, 2017, inclusive (the “Class Period”), was impersonal, open, well-developed, and efficient in that the prices quickly responded to incorporate and reflect new, material information as it became available, and that, therefore, (b) it was reasonable for investors to rely on the integrity of the market price of Anadarko during the Class Period as reflecting all publicly available information.² Furthermore, I also concluded that class-wide damages can be calculated in this case using an event study damages framework based on the event study methodology, and, if necessary, fundamental valuation principles.³

¹ Expert Report of Bjorn Steinholt, CFA, dated October 1, 2021 (“Steinholt Class Cert. Report,” hereby incorporated by reference), ¶¶19-52. Throughout this report, I use the term “material information” in the manner investors and securities analysts generally use the term, as opposed to a legal conclusion. From an economic point of view, the value of an investment is based on the expected future cash flows of that investment, including the timing and associated risk of those cash flows. Material information, sometimes also referred to as value-relevant information, therefore, is information that impacts the future cash flows or the timing or riskiness of the future cash flows. *See* Jerald E. Pinto, *et al.*, *Equity Asset Valuation*, John Wiley & Sons Inc., at 18-19 (2d ed. 2010) (“The most important type of equity valuation models are present value models. In finance theory, present value models are considered the fundamental approach to equity valuation. . . . A present value model or discounted cash flow model applied to equity valuation derives the value of the common stock as the present or discounted value of its expected future cash flows.”).

² Steinholt Class Cert. Report, ¶¶7, 60.

³ *Id.*, ¶¶53-59, 61.

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6. On November 17, 2021, I was deposed by Defendants' counsel in this matter (the "Steinholt Class Cert. Deposition").

7. On February 2, 2022, I submitted a rebuttal report in this case (the "Steinholt Class Cert. Rebuttal," hereby incorporated by reference) responding to various assertions made by Defendants' expert Dr. Allen Ferrell in his report, dated December 10, 2021 (the "Ferrell Class Cert. Report").

8. The compensation for the work performed in this matter is based on the number of hours worked times each analyst's billable rate. My billable rate is currently \$525 per hour. My compensation is not contingent on the outcome of this case.

II. OVERVIEW OF ASSIGNMENT

9. I was engaged by Robbins Geller Rudman & Dowd LLP, Class Counsel, to examine, analyze, and opine on the economic issues relating to loss causation and the quantification of class-wide damages for Class members who purchased Anadarko common stock during the Class Period.

10. First, I have been asked to opine on whether Defendants' scheme, misleading statements, and deceptive business practices alleged in the Amended Complaint for Violations of the Federal Securities Laws, dated August 17, 2020 (the "Complaint") contained, or omitted, important information that a reasonable investor would have wanted to consider prior to making an investment decision; and whether Defendants' alleged misconduct caused economic losses to investors who purchased Anadarko's common stock during the Class Period.

11. Second, I have been asked to provide an economic framework to quantify the potential Section 10(b) damages suffered by purchasers of Anadarko's common stock during the Class Period.

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12. My opinions in this matter are based on my professional experience, as well as my review of a substantial amount of information, including: (a) the Complaint; (b) the Court's Memorandum and Order, dated January 19, 2021; (c) the Court's Order of Class Certification, dated September 28, 2022; (d) public filings by Anadarko with the United States Securities and Exchange Commission ("SEC") from 2015 through 2017, including filings on Form 10-K, Form 10-Q, Form 8-K, Proxy Statements and Prospectuses; (e) Anadarko press releases and conference call transcripts from February 2015 through May 2017; (f) securities analyst reports relating to Anadarko and its industry from February 2015 through May 2017; (g) contemporaneous media reports regarding Anadarko and its industry from February 2015 through May 2017; (h) price, volume and other trading information for Anadarko common stock, market and industry indices, and peer group companies; (i) internal documents produced in discovery in this matter⁴; and (j) articles, court decisions, and other relevant information cited in this report. A summary of the information I have relied upon in this case is attached hereto as Exhibit B.

III. SUMMARY OF OPINIONS

13. This report is based on the evidence I have reviewed to date. I understand that Class Counsel are still in the process of conducting expert discovery on behalf of Plaintiffs and that additional information may become available, such as relevant opinions and analyses by Defendants' experts. As a result, I may modify my conclusions based on such additional evidence.

14. Based on my review and analysis of the information available to me, as well as my professional experience analyzing loss causation and damages, it is my opinion that:

- (a) The market in which Anadarko's common stock traded during the Class Period was open, developed and efficient, in that the market prices during this time period quickly changed to reflect new and material information

⁴ Class Counsel provided me with online access to the repository of documents produced in this case, many of which I understand are subject to the protective order in this case.

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concerning the Company as such information became available. Specifically, new and material information about Anadarko was widely disseminated to the market, analyzed by market participants and traded on, causing the information to quickly become reflected in the Company's stock price.

- (b) Defendants' alleged scheme and misleading statements contained, or omitted, information that a reasonable investor would have wanted to consider prior to making an investment decision, causing Anadarko's common stock to trade at artificially inflated prices during the Class Period.
- (c) When the alleged truth was publicly disclosed, Anadarko's stock price declined, causing Class members to suffer economic damages as a result of the alleged fraud (*i.e.*, the disclosure of the alleged truth).
- (d) The event study framework, as explained in greater detail below, can be used to quantify damages in this case. While this framework is flexible, if Plaintiffs prove all of the allegations, the estimated dollar inflation per share is:

- From February 21, 2015 through July 26, 2016: \$1.75 per share⁵
- From July 27, 2016 through May 2, 2017: \$1.92 per share.

15. For shares purchased during the Class Period and still owned at the end, the measure of out-of-pocket damages is simply the inflation at the time of purchase. In this case, for shares sold prior to the end of the Class Period, damages are zero, as the inflation at the time of purchase is always equal to or less than the inflation at the time of sale. Furthermore, the recoverable damages are also limited by the Federal 90-Day Bounce Back Rule.⁶

⁵ Because the Class Period began with an alleged misleading statement made after the market closed on February 20, 2015, the first day with inflation as a result of that misleading statement would be the next day, February 21, 2015; *see also infra*, ¶20.

⁶ 15 U.S.C. §78u-4(e). According to this Rule, recoverable damages are limited to either: (a) the purchase price per share less the average closing price from May 3, 2017 through the day of the sale, if sold on or prior to July 31, 2017; or (b) the purchase price less \$47.88 per share (90-day average closing price after the Class Period) if still retained at the end of July 31, 2017.

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IV. COMPANY BACKGROUND

16. During the Class Period, Anadarko was one of the largest independent exploration and production (“E&P”) companies in the world, with proved reserves of approximately 1.7 billion BOE (“barrels of oil equivalents”) as of December 31, 2016.⁷ Anadarko had three reporting segments: First, the Oil and Gas Exploration and Production segment involved in exploring for and producing oil, natural gas, and NGLs (“natural gas liquids”), which made up 73% of gross revenues in 2016.⁸ Second, the Midstream segment involved gathering, processing, treating, and transporting Anadarko and third-party oil, natural gas, and NGLs production as well as gathering and disposal of produced water. Third, the Marketing segment involved selling much of Anadarko’s oil, natural gas, and NGLs production as well as third-party purchased volumes.⁹ At all relevant times, Anadarko’s common stock was listed and traded on the New York Stock Exchange (“NYSE”), under the ticker symbol “APC.”

17. Anadarko was also “among the largest independent producers in the deepwater Gulf of Mexico.”¹⁰ In the first quarter of 2009, the Company announced the Shenandoah “high-impact” oil discovery well, the Shenandoah-1 (or Shen-1) exploration well, located in Walker Ridge in the deepwater Gulf of Mexico.¹¹

18. By March 2013, following the reported success of Anadarko’s Shen-2 appraisal well, the Company stated that the Shenandoah field represented “one of Anadarko’s largest oil

⁷ Anadarko 2016 Form 10-K, filed with the SEC on February 17, 2017, at 4.

⁸ *Id.* at 144. Oil and Gas Exploration and Production segment (\$6,842 million, or 72.7%), Midstream segment (\$2,038 million, or 21.7%), and Marketing segment (\$527 million, or 5.6%).

⁹ *Id.*

¹⁰ Anadarko 2014 Form 10-K, filed with the SEC on February 20, 2015, at 2.

¹¹ May 6, 2009, Anadarko press release, “Anadarko Announces First-Quarter Results.”

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discoveries in the Gulf of Mexico,” and that “Anadarko is strategically positioned in the Shenandoah Basin, which has the potential to become one of the most prolific new areas in the deepwater Gulf of Mexico.”¹²

19. Following the results of the Shen-3 appraisal well, on February 2, 2015, Anadarko reported its results for 4Q2014 and FY2014, including that the “[a]ppraisal activity . . . in the Gulf of Mexico at the Shenandoah discovery continued to validate the company’s geologic models around these apparent commercial discoveries.”¹³ Though Shen-3 found no hydrocarbons, as noted in an RBC analyst report, APC held Shen-3 well out as a “success,”¹⁴ and, as a result, analysts generally viewed the results from the Shen-3 well as a positive.¹⁵

20. The Class Period starts on February 20, 2015, when Anadarko, after the market closed, filed its annual Form 10-K with the SEC, stating that the Shen-3 “finished drilling at the end of 2014 and found approximately 50% (1,470 feet) more of the same reservoir sands 1,500 feet down-dip and 2.3 miles east of the Shenandoah-2 well, which encountered over 1,000 feet of net oil pay in excellent quality Lower Tertiary-aged sands,” and that the Shen-3 well “confirmed the sand depositional environment, lateral sand continuity, excellent reservoir qualities, and down-

¹² March 19, 2013, Anadarko press release, “Anadarko Announces Shenandoah Appraisal Well Encounters More than 1,000 Net Feet of Oil Pay.”

¹³ February 2, 2015, Anadarko press release, “Anadarko Announces 2014 Fourth-Quarter And Full-Year Results.”

¹⁴ February 2, 2015, RBC analyst report on Anadarko, “APC – 4Q14 EPS Miss, but strong operation CFPS beat.”

¹⁵ See, e.g., February 2, 2015, UBS analyst report on Anadarko, “Messy 4Q EPS But Cash Flow and Production In Line; 2015 Guidance Deferred Until Analyst Day” (“In the deepwater Gulf of Mexico, it completed the second appraisal well at the Shenandoah prospect (Shenandoah-3), which enabled projection of preliminary oil/water contact, increasing confidence in the ultimate resource potential. Establishing oil/water contact was one of the primary objectives of the well, and APC remains enthusiastic that Shenandoah is a giant field.”).

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dip thickening [and] also enabled the projection of oil-water contacts based on pressure data and reduced the uncertainty of the resource range.”¹⁶

21. On October 27, 2015, Anadarko announced that it had “[c]ompleted a successful appraisal test [Shen-4 appraisal well] at the Shenandoah field in the Gulf of Mexico,” and that the Shen-4 had “encountered more than 620 net feet of oil pay.”¹⁷ The following day, on October 28, 2015, Anadarko held a conference call on which analyst Evan Calio of Morgan Stanley asked: “[C]ongrats on another Shenandoah appraisal. Could you discuss how the results compare to pre-drill expectations or comments on reservoir quality, and [then] go-forward plans?” In response, Defendant Robert Daniels, stated:

We got 622 feet of pay.

What we ended up doing was we tested up to the north with trying to find out where the basin edge was, and the first well established where the basin edge was. Then we came in and drilled to the south with a side track, and got the 622 feet of pay. It was all oil, we encountered no water in that.

The reservoir quality in the initial assessment looks pretty – well, it looks comparable to everything else we’ve found out there. So very good reservoir quality.

* * *

[W]e’re very encouraged with what we saw, and it was all well within the range of expectation of what we had put out there.”¹⁸

¹⁶ Anadarko Form 10-K, filed with the SEC on February 20, 2015, at 9. On March 3, 2015, the Anadarko Petroleum Corp 2015 Capital Program and Guidance Call was held, where the Company also represented that the Shen-3 was very successful: “Let’s look at some more details of a couple of our focus areas, starting in the Deepwater Gulf of Mexico. We’re excited about the advancement of Shenandoah. We pushed down dip on Shenandoah-3, searching for the oil/water contact, looking for reservoir continuity and quality, and to get a core in the down dip portions of the reservoir. This was a very successful appraisal well.”

¹⁷ October 27, 2015, Anadarko press release, “Anadarko Announces Third-Quarter 2015 Results.”

¹⁸ October 28, 2015, Anadarko conference call, “Q3 2015 Anadarko Petroleum Corp Earnings Call,” at 5-6.

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22. On July 26, 2016, after the market closed, Anadarko announced that the Shen-5 appraisal well had “[e]ncountered more than 1,040 net feet of oil pay,” and that it had increased its working interest in the Shenandoah from 30% to 33%.¹⁹ The following day, on July 27, 2016, Anadarko held a conference call with analysts during which Defendant Robert Walker stated:

[W]e were real pleased with what we saw on the number 5 well. Not surprised, but we were very pleased to see it come in as we had predicted it would, 1,040 feet-plus of pay. We are about a half mile east of the number 2 well, and then we are going to move farther east and down-dip with the number 6.²⁰

23. On February 17, 2017, Anadarko filed its annual Form 10-K with the SEC and provided the following update regarding the Shenandoah:

Shenandoah Anadarko and its partners are continuing to work toward determining the commerciality of the Shenandoah field. The Company has selected a Semisubmersible concept to support the potential development as part of these efforts. The front-end engineering design (FEED) on the Semisubmersible will continue while Anadarko continues appraisal drilling to further delineate the opportunity before making a future sanctioning decision.

The Company spud the Shenandoah-5 well, the fourth appraisal well at the Shenandoah discovery (33% working interest), in the first quarter of 2016. The well encountered more than 1,040 net feet of oil pay, extending the resource in the central-to-eastern limits of the field. The well has been secured for potential future production operations. The Shenandoah-6 appraisal well was spud in the fourth quarter of 2016. The drilling objective is to establish the oil-water contact on the eastern flank of the field and to help quantify the resource potential of the basin.²¹

24. On May 2, 2017, after the market had closed, Anadarko reported a loss of \$318 million, or \$0.58 per share, and revealed that “Anadarko recently completed drilling operations at

¹⁹ July 26, 2016, Anadarko press release, “Anadarko Announces Second-Quarter 2016 Results.” The remaining working interest in the Shenandoah by the other partners were ConocoPhillips (30%), Cobalt International (20%), and privately owned Venari Resources (17%).

²⁰ July 27, 2016, Anadarko conference call, “Q2 2016 Anadarko Petroleum Corp Earnings Call,” at 5.

²¹ Anadarko Form 10-K, filed with the SEC on February 17, 2017, at 11. Internally, as of March 31, 2017, Anadarko assigned a book value of the Shenandoah of \$893 million. APC-00734803.

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the Shenandoah-6 appraisal and sidetrack well, which did not encounter the oil-water contact in the eastern portion of the field,” and that the Company “has currently suspended appraisal activity in the field while it evaluates the path forward.”²² The reported earnings were below the Company’s guidance and analysts’ expectations, internally attributed largely to the write-off and expenses related to the Shenandoah.²³

25. According to Anadarko’s Form 10-Q, also filed after the market closed on May 2, 2017, the reported 1Q2017 loss was primarily a result of writing off the Shenandoah asset (\$467 million) and expensing all drilling costs (\$435 million), for a combined total of \$902 million. The Form 10-Q stated:

During the three months ended March 31, 2017, the Company expensed suspended exploratory well costs of \$435 million related to the Shenandoah project in the Gulf of Mexico, including \$267 million previously capitalized for a period greater than one year. The Shenandoah-6 appraisal well and subsequent sidetrack, which completed appraisal activities in April 2017, did not encounter the oil-water contact in the eastern portion of the field. Given the results of this well and the present commodity-price environment, the Company has currently suspended further appraisal activities. Accordingly, the Company determined that the Shenandoah project no longer satisfies the accounting requirements for the continued capitalization of the exploratory well costs.

* * *

The Company recognized \$532 million of impairments of unproved Gulf of Mexico properties during the three months ended March 31, 2017, of which \$467 million related to the Shenandoah project. The unproved property balance related to the Shenandoah project originated from the purchase price allocated to the Gulf of

²² May 2, 2017, Anadarko press release, “Anadarko Announces First-Quarter 2017 Results.”

²³ See, e.g., APC-00735955 (April 21, 2017 email from Robin Fielder to Defendant Al Walker *et al.*, regarding 1Q2017 earnings materials: “Recall that we stripped out the Eagleford and Marcellus from guidance which implied a loss of \$(0.53)/share. With those divested assets added back, the midpoint of our guidance suggests \$(0.23)/share. The street consensus is very close to this at \$(0.22)/share, however we should report adjusted earnings of \$(0.60)/share, largely due to exploration expense associated with Shenandoah. . . . The big driver of [negative] EPS is the write-down of book value at Shenandoah.”).

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Mexico exploration projects from the acquisition of Kerr-McGee Corporation in 2006.²⁴

26. The May 2, 2017 announcement, after the market had closed, that Anadarko was suspending appraisal activities at the Shenandoah, marks the end of the Class Period.

V. SUMMARY OF PLAINTIFFS' ALLEGATIONS

27. For the purpose of my analysis, I have assumed that Plaintiffs will be able to prove the factual allegations at trial.²⁵ In general, Plaintiffs allege that Defendants engaged in a fraudulent scheme by multiple methods and means and made misleading statements during the Class Period that concealed the alleged truth – the lack of commercial viability of the Shenandoah project.²⁶

28. Plaintiffs allege that Defendants made public statements leading up to and during the Class Period about Shen that they failed to correct and concealed the following material facts necessary not to make their statements misleading:

- (a) Each well post-Shen-2 reflected a significantly reduced Shen's resource size, falling below the range of expectations and rendering Shen uncommercial;
- (b) Fault compartmentalization posed a serious risk to Shen's commercial viability and producible resource size;
- (c) Anadarko's resource range for Shen did not adequately reflect its structural uncertainties and sand thickness variability;
- (d) Pressure data from Shen-3 did not allow for the reliable projection of oil-water contacts;
- (e) The asphaltene deposition properties of the Shenandoah crude oils had multiple negative impacts on commercial viability;

²⁴ 1Q2017 Anadarko Form 10-Q, filed with the SEC on May 2, 2017, at 13, 37.

²⁵ This is consistent with the traditional role of a damages expert. Mark A. Allen, *et al.*, "Reference Guide on Estimation of Economic Damages," *Reference Manual on Scientific Evidence*, at 432 (3d ed. 2011) ("In almost all cases, the damages expert proceeds on the hypothesis that the defendant committed the harmful act and that the act was unlawful.").

²⁶ Complaint, ¶¶152-153.

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- (f) Results from Shen-3 and Shen-4 resulted in a resource reduction of 64%, despite both wells being described as successful;
- (g) An internal audit of Shen by Anadarko's RCT resulted in a significant downward adjustment to the resource size;
- (h) Defendants suppressed the truth about Shen through multiple means and methods, including through censorship and intimidation of dissenters;
- (i) Senior reservoir engineer and subsurface lead on the Shen project, Lea Frye, filed a whistleblower complaint with the SEC alleging that Anadarko was exaggerating Shen's value and resource size; and
- (j) Shen was more likely than not uncommercial after the results of Shen-3, and certainly not commercially viable after Shen-4.

29. Finally, the alleged truth, *i.e.*, the lack of commercial viability of the Shenandoah project, was disclosed after the market had closed on May 2, 2017, as part of the Company's 1Q2017 announcement, including the suspension of appraisal activities in the Shenandoah and the associated \$902 million write-off and expenses.²⁷

VI. MARKET EFFICIENCY IN A FRAUD-ON-THE-MARKET CONTEXT

30. An efficient market is one that efficiently processes new and material information. In an efficient market, new and material information is quickly incorporated into the stock price as different investors buy and sell based on their respective evaluations of the new information disclosed.²⁸ This also means that the resulting stock price will reflect the investors' consensus regarding the stock's value given the available public mix of information.²⁹ The driving force that

²⁷ *Id.*

²⁸ How quickly new information is incorporated into the stock price depends on how unexpected and complex the information is. Generally, it is reasonable to assume that new and material information is incorporated into a stock price within one day.

²⁹ This does not mean that all market participants agree on what the true value of the common stock is, as evidenced by the fact that some investors sell as others buy. Rather, it means that the respective investor's view of the stock's true value drives their purchases and sales (*i.e.*, the demand and supply for the stock), which in turn becomes the basis for the consensus price set by the overall market.

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causes markets to be efficient is the competition amongst investors to quickly analyze and trade on new information as it becomes available. As a result of this competition, riskless profit opportunities are short-lived and do not persist in efficient markets. This concept has broad empirical support.³⁰

31. For securities class actions, there are two important implications of an efficient market. First, in an efficient market, it is reasonable for investors to rely on the integrity of the market price. As explained in a commonly used finance textbook, “[i]n an efficient market you can trust prices,” because they quickly impound new and material information, meaning that “in an efficient market, there is no way for most investors to achieve consistently superior rates of return.”³¹

32. Second, in an efficient market, the impact of the alleged scheme and misleading statements can be estimated, and class-wide damages quantified, based on an analysis of the market prices using an event study.³² This is so because the “alleged misrepresentations and omissions, whether material or immaterial, would be so equally for all investors composing the class,” and that, therefore, the Class “will prevail or fail in unison.”³³

³⁰ Burton G. Malkiel, “The Efficient-Market Hypothesis and the Financial Crisis,” *Rethinking the Financial Crisis*, Russell Sage Found., at 75 (2012) (“At its core, EMH [the Efficient Market Hypothesis] implies that arbitrage opportunities for riskless gains do not exist in an efficiently functioning market and that, if they do appear from time to time, they do not persist. The evidence is clear that this version of EMH is strongly supported by the data.”).

³¹ Richard A. Brealey, *et al.*, *Principles of Corporate Finance*, McGraw-Hill, at 337 (11th ed. 2013).

³² See Mark L. Mitchell & Jeffrey M. Netter, *The Role of Financial Economics in Securities Fraud Cases: Applications at the Securities and Exchange Commission*, 49 Bus. Law 545 (1994).

³³ *Amgen Inc. v. Conn. Ret. Plans & Tr. Funds*, 568 U.S. 455, 459-60 (2013).

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33. In *Cammer v. Bloom*, the court analyzed the criteria that should be evaluated in determining whether a market is efficient.³⁴ The *Cammer* court asked for evidence that the stock traded in an open and developed market, and provided five factors to assess market efficiency, including evidence showing that the market participants had the sophistication to understand the economic implications of new and material information (market makers/institutions), that they analyzed the information (analyst coverage), and that they traded on the information (trading volume). In my experience, and from an economic point of view, the *Cammer* factors are very useful in determining whether a market was open and developed, and would be expected to efficiently process new, material information. As discussed above, academic research has shown that equity securities that trade in open and developed markets quickly react to new and material information so that it is extremely difficult, if not impossible, to consistently outperform the overall market prices.³⁵ Consequently, in such markets, it would be reasonable to rely on the integrity of the market prices. *Cammer* also explained that it would be “helpful” to demonstrate that the stock price in question quickly reacted to new and material company-specific information, as this represents direct evidence of market efficiency. In the Steinholt Class Cert. Report (incorporated by reference), I discussed how each of these factors support market efficiency here and, consequently, concluded that the market for Anadarko’s common stock traded in an efficient market.³⁶

³⁴ *Cammer v. Bloom*, 711 F. Supp. 1264 (D.N.J. 1989).

³⁵ See Eugene E. Fama & Kenneth R. French, *Luck Versus Skill in the Cross-Section of Mutual Fund Returns*, J. of Fin., Vol. 65 (2010).

³⁶ See Steinholt Class Cert. Report, ¶¶19-45. In addition, the Steinholt Class Cert. Report analyzed the three additional factors first identified in *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D. Tex. 2001), and concluded that each of these additional *Krogman* factors has also been met in this case. Steinholt Class Cert. Report, ¶¶46-52.

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VII. THE EVENT STUDY METHODOLOGY

34. In securities class action cases, the event study is generally considered superior to other valuation techniques in isolating the impact of new information on stock prices. In an efficient market, securities prices quickly incorporate new, material information. Consequently, the price movement following a disclosure of new information can be analyzed to: (a) assess statistical significance; and (b) quantify the portion of the price movement not explained by market and industry factors, *i.e.*, the company specific portion of the price movement.³⁷ This type of analysis is generally referred to as an event study.³⁸

35. In the Steinholt Class Cert. Report, I ran event study regressions for each day during the Class Period as part of my analysis assessing market efficiency.³⁹ I also explained that “[f]or the purpose of quantifying damages, or the impact of the alleged fraud, it may be necessary to modify the event study somewhat to properly isolate the fraud-related component of the price movement.”⁴⁰ In my discussion below I will review the event study I used for the purposes of quantifying damages, and explain where it differs from the event study I used for the purpose of analyzing market efficiency.

36. In this case, the event study methodology is particularly helpful in quantifying damages. The alleged truth in this case was disclosed at the end of the Class Period (after the market closed on May 2, 2017) when Defendants announced the suspension of appraisal activity

³⁷ A statistically significant price movement is one that is unlikely to have occurred simply by chance, and, consequently, is therefore a price movement that was likely caused by the event (new information revealed on the event day analyzed).

³⁸ For a more detailed explanation of the event study methodology, *see supra* n.32, Mitchell & Netter (1994).

³⁹ Steinholt Class Cert. Report, ¶¶37-38, Ex. D.

⁴⁰ *Id.*, n.49.

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at Shenandoah and, as a result, wrote off the Shenandoah asset (\$467 million) and expensed all drilling costs (\$435 million), for a combined total of \$902 million.⁴¹ The Shenandoah write-off and expenses accounted for all, or substantially all, of the entire shortfall in 1Q2017 earnings, announced at the same time, while the Company's FY2017 guidance remained the same.⁴² As I will explain in greater detail below, it is my opinion that in this case, an event study that controls for market and industry factors (including Colorado regulatory factors) can be used to estimate the impact of the disclosure of the alleged truth on Anadarko's stock price, the artificial inflation and resulting damages. Below, I will discuss the five different steps that are generally included when conducting an event study: (a) define the event(s); (b) control for market and industry factors; (c) select control period(s); (d) calculate predicted returns, abnormal returns and t-statistics; and (e) interpret results.

37. **STEP 1: Define the Event.** The first step of conducting an event study involves defining the relevant event to be analyzed. This case relates to Defendants': (a) pre-Class Period characterization of Shenandoah as "one of Anadarko's largest oil discoveries in the Gulf of Mexico," and as having "the potential to become one of the most prolific new areas in the deepwater Gulf of Mexico"⁴³; and (b) concealment of negative information during the Class Period that would have revealed Shenandoah's lack of commercial viability, *i.e.*, the alleged truth. In other words, Plaintiffs allege that the positive outlook for Shenandoah that existed prior to the Class Period was maintained throughout the Class Period until the disclosure of the alleged truth

⁴¹ 1Q2017 Anadarko Form 10-Q, filed with the SEC on May 2, 2017, at 13, 37.

⁴² *Supra*, ¶23 n.21.

⁴³ March 19, 2013, Anadarko press release, "Anadarko Announces Shenandoah Appraisal Well Encounters More than 1,000 Net Feet of Oil Pay."

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when the Company disclosed that it was suspending appraisal activity in the Shenandoah field.⁴⁴ Consequently, the key event to be analyzed in this case is Anadarko's 1Q2017 announcement after the market closed on May 2, 2017 (press release and Form 10-Q filed with the SEC) and May 3, 2017 (conference call with analysts held prior to the market opened). More specifically, since all of the alleged truth was disclosed after the market closed on May 2, 2017 and before the market closed on May 3, 2017, I will use the event study to analyze the change in Anadarko's closing price from May 2, 2017 to May 3, 2017 (in other words, Anadarko's May 3, 2017 price decline), and quantify the impact of the disclosure of the alleged truth.

38. **STEP 2: Control for Market and Industry Factors.** The second step of conducting an event study involves selecting a market index and an industry index to control for market and industry factors. In Anadarko's SEC filings, the Company itself identified the S&P 500 as its market index, and the returns of a group of Anadarko's E&P peers ("E&P Peer Group") as its industry index, and used these indices to measure the performance of its own stock price.⁴⁵ Consequently, for the purpose of analyzing market efficiency, I used the S&P 500 index to control for market factors and an equally weighted index of the companies in the E&P Peer Group to control for industry factors.⁴⁶ That said, I also noted that "it may be necessary to modify the [E&P Peer Group] somewhat to properly isolate the fraud-related component of the price movement."⁴⁷

⁴⁴ May 2, 2017, Anadarko press release, "Anadarko Announces First-Quarter 2017 Results"; Anadarko Form 10-Q, filed with the SEC on May 2, 2017, at 13, 37.

⁴⁵ Anadarko 2016 Form 10-K, filed with the SEC on February 17, 2017, at 51. The E&P Peer Group includes: Apache Corporation, Chesapeake Energy Corporation, Chevron Corporation, ConocoPhillips, Devon Energy Corporation, EOG Resources, Inc., Hess Corporation, Marathon Oil Corporation, Noble Energy, Inc., Occidental Petroleum Corporation, and Pioneer Natural Resources Company.

⁴⁶ Steinholt Class Cert. Report, ¶37.

⁴⁷ *Id.*, n.49.

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39. Defendants have argued that one factor unrelated to the alleged truth (also known as a confounding factor) that may not be properly controlled for, in the context of price impact, when using the E&P Peer Group index, is new information regarding the Colorado’s regulatory environment that was impacted by an explosion in Firestone, Colorado (“Firestone Explosion”), discussed in greater detail below. This is because only one company (Noble Energy) of the eleven companies making up the E&P Peer Group index had any meaningful operation in Colorado, specifically in the Wattenberg Field or Denver-Julesburg Basin (the “DJ Basin”), and thereby any meaningful exposure to the Colorado regulatory environment.⁴⁸ Consequently, I also considered a peer group index of the following Colorado operators that all had substantial operations in the DJ Basin: Noble Energy, PDC Energy, SRC Energy, and Extraction Oil & Gas (the “Colorado Peer Group”).⁴⁹ The companies in the Colorado Peer Group were also identified in analyst reports as

⁴⁸ See Steinholt Class Cert. Deposition at 28:8-12, 29:3-11 (“So I have one company here, Noble Energy, that probably was impacted by the Firestone issue, but then there would be other companies in the peer group that may not be impacted by that. . . . On April 17th there was an explosion close to one of Anadarko’s wells, and there are many different implications of that. One could be the overall regulatory environment in Colorado. So the regular – any changes to the regulatory environment would not only impact Anadarko, it would impact all the companies doing business in Colorado.”).

⁴⁹ **Noble Energy** Form 10-K, filed with the SEC on February 14, 2017, at 2-3 (“Noble Energy is a leading independent crude oil and natural gas exploration and production company with a diversified high-quality portfolio spanning three continents and consisting of both US unconventional and global offshore conventional assets. . . . Approximately 75% of our 2017 capital program is allocated to US onshore development, primarily focused on liquids-rich opportunities in the DJ Basin, Delaware Basin and Eagle Ford Shale.”); **PDC Energy** Form 10-K, filed with the SEC on February 28, 2017, at 2 (“We are a domestic independent exploration and production company that acquires, produces, develops, and explores for crude oil, natural gas, and NGLs. Our operations are located in the Wattenberg Field in Colorado; the Utica Shale in southeastern Ohio; and, with the closing of our \$1.76 billion acquisitions of proved producing, proved undeveloped, and unproved leaseholds in December 2016, in the Delaware Basin in Texas”); **SRC Energy** (formerly Synergy Resources Corporation) Form 10-K, filed with the SEC on February 23, 2017, at 2 (“[SRC Energy] is a growth-oriented independent oil and gas company engaged in the acquisition, development, and production of oil and natural gas in the Denver-Julesburg Basin [or DJ Basin], which we believe to be one of the premier, liquids-rich oil and natural gas resource plays in the United States.”); **Extraction Oil & Gas** Form 10-K, filed with

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potentially being impacted by the Colorado regulatory environment following the Firestone Explosion.⁵⁰ Furthermore, each of these companies was also identified by Defendants' class certification expert as Colorado operators that experienced significant price declines on May 3, 2017, following an update by the Frederick-Firestone Fire Department and reactions by Governor Hickenlooper and others regarding the Firestone Explosion.⁵¹ Consequently, the Colorado Peer Group index is a relevant index to consider as it not only reflects general industry factors, but also Colorado-specific factors that could have impacted Anadarko's stock price on May 3, 2017.

40. **STEP 3: Select a Control Period.** The third step involves selecting a control period with normal price returns unaffected by the events examined, or estimation window, to determine the normal historical statistical relationship between Anadarko's price returns and that of the market and industry indices used in the regressions. In this case, when using the S&P 500 index in combination with the E&P Peer Group index as inputs to the event study regression, I used the 252 trading-day period (approximately one-year) prior to May 3, 2017, as the control

the SEC on March 13, 2017, at 8 ("We are an independent oil and gas company focused on the acquisition, development and production of oil, natural gas and NGL reserves in the Rocky Mountain region, primarily in the Wattenberg Field of the Denver-Julesburg Basin (the 'DJ Basin') of Colorado.").

⁵⁰ April 27, 2017, Evercore analyst report on Anadarko, "APC Colorado Shut-ins" ("APC . . . temporarily shut in roughly 3,000 legacy vertical wells in NE Colorado following a home explosion on April 17th in Firestone. . . . DJ basin exposed peers underperformed today on sympathy (NBL, SRC, XOG, PDCE)."); April 27, 2017, Wells Fargo analyst report on Anadarko, "APC: Statement on Colorado Explosion" ("In response to a tragic explosion that occurred in Firestone, CO on April 17, Anadarko has made the decision to shut-in 3,000 DJ Basin vertical wells Other DJ producers that might feel some pressure resulting from this incident include NBL and PDCE and to a lesser extent XOG and SRCI."); May 2, 2017, Wells Fargo equity research report ("Regulatory Concern could Pressure all DJ Players. . . . decision to move to the sidelines . . . SRCI and XOG, reflects our belief that all DJ basin-exposed names will remain under pressure given the fear of a potential regulatory response. The other two prominent DJ players in our universe include Noble Energy (NBL, \$31.42) and PDC Energy (PDCE, \$54.77).").

⁵¹ Ferrell Class Cert. Report, Figure 1.

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period.⁵² In other words, the inputs to the regression are the returns of Anadarko and the market and peer group indices during the 252-trading day period prior to May 3, 2017, while the output is a regression equation that predicts Anadarko's price movement on the event day.

41. With respect to event study regressions that included the Colorado Peer Group index, I used a shorter control period because one of the companies (Extraction Oil & Gas) in the Colorado Peer Group only started to trade on October 12, 2016, leaving only 138 trading days available for the control period. While this is less than the one-year period I normally use, a shorter control period is consistent with the academic literature which typically use control periods ranging from 100 to 300 days.⁵³ In other words, for event studies that included the Colorado Peer Group index, I used a 138-day control period, *i.e.*, the maximum number of days available, when determining the regression equation.

42. **STEP 4: Predicted Returns, Abnormal Returns, and P-values.** The fourth step of conducting an event study involves using the regression equation discussed above to calculate Anadarko's predicted returns for the day analyzed. The difference between Anadarko's actual return and its predicted return is the abnormal return, also known as the residual return, *i.e.*, Anadarko's return net of market and industry factors. The abnormal return is also commonly referred to as the Company-specific return.

⁵² See *supra* n.32, Mitchell & Netter (1994) ("The [control] period for this market model equation typically ranges from 100 to 300 trading days preceding the event under study. . . . [Control] periods that cover the 253 days (one year) prior to the event are presented.").

⁵³ *Id.*; see also A. Craig MacKinlay, *Event Studies in Economics and Finance*, J. of Econ. Literature, Vol. 35, No. 1 (Mar. 1997) ("The most common choice, when feasible, is using the period prior to the event window for the [control] period For example, in an event study using daily data and the market model, the market model parameters could be estimated over the 120 days prior to the event.").

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43. Statistical significance is then assessed by calculating the t-statistic (abnormal return divided by the standard error during the control period). The magnitude of the t-statistic is used to assess statistical significance, *i.e.*, the likelihood of the stock price return occurring simply by chance. More specifically, the t-statistic translates into a p-value, or probability that a price movement of equal or greater magnitude would occur randomly. A p-value of 5% or less (*i.e.*, a result that has a 5% or less chance of occurring randomly), is defined as being statistically significant at the 5% level. Similarly, a p-value of 1% or less (*i.e.*, a result that has a 1% or less chance of occurring randomly), is defined as being statistically significant at the 1% level; and a p-value of 10% or less (*i.e.*, a result that has a 10% or less chance of occurring randomly), is defined as being statistically significant at the 10% level.⁵⁴

44. **STEP 5: Interpret the Statistical Results.** Finally, the fifth step of conducting an event study involves interpreting the statistical results for the event analyzed. In this case, I first compared the explanatory power, or adjusted R-squared, of my two-factor regressions using the S&P 500 index as a proxy for the market in combination with either: (a) the Colorado Peer Group index, or (b) the E&P Peer Group index, as proxies for the industry.⁵⁵ I found that using the S&P 500 index in combination with the Colorado Peer Group index explained more than 75% of the

⁵⁴ Richard A. DeFusco, *et al.*, *Quantitative Investment Analysis*, John Wiley & Sons, Inc., at 248-49 (2d ed. 2007) (“Qualitatively, if we can reject a null hypothesis at the [10%] level of significance, we have **some evidence** that the null hypothesis is false. If we can reject a null hypothesis at the [5%] level, we have **strong evidence** that the null hypothesis is false. And if we can reject a null hypothesis at the [1%] level, we have **very strong evidence** that the null hypothesis is false.”) (emphasis in original).

⁵⁵ Daniel L. Rubinfeld, “Reference Guide on Multiple Regression,” *Reference Manual on Scientific Evidence*, at 345 (3d ed. 2011) (“R-squared . . . is a statistic that measures the percentage of variation in the dependent variable that is accounted for by all the explanatory variables. Thus, [R-squared] provides a measure of the overall goodness of fit of the multiple regression equation. Its value ranges from 0 to 1. An [R-squared] of 0 means that the explanatory variables explain none of the variation of the dependent variable; an [R-squared] of 1 means that the explanatory variables explain all of the variation.”).

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price movements in Anadarko's stock price, while using the S&P 500 index in combination with the E&P Peer Group index explained approximately 73%. While this is not a large difference, it does indicate that the event study using the Colorado Peer Group index provides a better fit, although using a shorter control period.⁵⁶

45. More importantly, the event study using the S&P 500 index in combination with the E&P Peer Group index does not explain any of the Anadarko's stock price decline on May 3, 2017, as the predicted return for that day is positive (+0.3%). On the other hand, the event study using the S&P 500 index in combination with the Colorado Peer Group index results in a predicted return for May 3, 2017, of -4.28%. The difference between the actual return (-7.69%) less the predicted return (-4.28%), *i.e.*, the abnormal return or Company-specific return, was -3.42% and was statistically significant at the 1% level, a higher benchmark than the 5% level commonly used.⁵⁷ In other words, the event study using the S&P 500 index in combination with the Colorado Peer Group index explains 56% of Anadarko's -7.69% price decline on May 3, 2017.⁵⁸ Furthermore, the May 3, 2017, abnormal return of -3.42% translates into a Company-specific price

⁵⁶ David I. Tabak & Fredrick C. Dunbar, "Materiality and Magnitude: Event Studies in the Courtroom," *Litigation Services Handbook: The Role of the Financial Expert*, at 19.6 (3d ed. 2001) ("While one should not use either the adjusted R-squared or t-statistics as a blind measure for the comparison of the explanatory power of different indices, an expert should be prepared to provide these statistics. Moreover, if the expert chooses one index with less statistical explanatory power than a second index, he or she should be prepared to defend this choice."). A three-factor regression with the S&P 500 index as a proxy for the market, the E&P Peer Group index as a proxy for the general industry, and the Colorado Peer Group index as a proxy for the Colorado industry provides the best fit (81%), but did not explain nearly as much of the May 3, 2017 price decline as the two-factor regression only including the Colorado Peer Group index.

⁵⁷ See *supra* n.54.

⁵⁸ (-4.28% predicted return) divided by (-7.69% actual return) equals 56%.

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decline of \$1.92 per share, or a reduction of Anadarko's market capitalization by \$1,075 million.⁵⁹

The event study for May 3, 2017 is attached hereto as Exhibit C.

VIII. LOSS CAUSATION

46. Loss causation relates to whether the alleged fraudulent act or omission “caused the loss for which the plaintiff seeks to recover damages.”⁶⁰ In 2005, in *Dura Pharms., Inc. v. Broudo*, 544 U.S. 336 (2005), the Supreme Court considered the issue of loss causation in securities cases. The *Dura* opinion states that “an inflated purchase price will not itself constitute or proximately cause the relevant economic loss,” because “if, say, the purchaser sells the shares quickly before the relevant truth begins to leak out, the misrepresentation will not have led to any loss.”⁶¹ Instead, loss causation is established when the “relevant truth begins to leak out,” and the stock price declines as a result.⁶² The “relevant truth” is generally considered to be the truth allegedly omitted or concealed by the misrepresentation. As one court explained, “to establish loss causation this disclosed information must reflect part of the ‘relevant truth’ – the truth obscured by the fraudulent statements.”⁶³ While loss causation is a legal concept, below I will discuss the framework generally used by experts to analyze loss causation from an economic point of view.

⁵⁹ May 2, 2017, closing price of \$56.28 per share times 3.42% equals \$1.92 per share. May 3, 2017, Company-specific price decline of \$1.92 per share times 560.34 million Anadarko shares equals \$1,075 million. Shares outstanding from Anadarko Form 10-Q, filed with the SEC on May 2, 2017, cover page.

⁶⁰ Private Securities Litigation Reform Act of 1995, 15 U.S.C. §78u-4(b)(4).

⁶¹ *Dura*, 544 U.S. at 342.

⁶² *Id.*

⁶³ *Alaska Elec. Pension Fund v. Flowserve Corp.*, 572 F.3d 221, 230 (5th Cir. 2009); *In re Vivendi, S.A. Sec. Litig.*, 838 F.3d 223, 261 (2d Cir. 2016) (“[T]o show loss causation, it is enough that the loss caused by the alleged fraud results from the ‘relevant truth . . . leak[ing] out.’”) (internal citation omitted).

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47. In order to analyze loss causation, it is necessary to understand the various elements of the alleged fraudulent conduct. Generally, as in this case, Plaintiffs allege that Defendants engaged in a fraudulent scheme and made misleading statements that concealed an undisclosed, material truth (including the foreseeable economic consequences that flow from this material truth). The misrepresentations or omissions are deemed to be material if they, or the alleged or relevant truth concealed, would have been considered important by reasonable investors in making investment decisions. Material misrepresentations and omissions artificially inflate the stock price and, thereby, cause public investors to overpay for their shares. The artificial stock price inflation is then reduced or eliminated as information reflecting the alleged truth concealed by the fraud (including the foreseeable economic consequences thereof) is revealed, thereby causing economic losses to public investors who overpaid for their shares and now are unable to recover this overpayment by selling their shares. Importantly, the resulting economic losses are losses that would not have occurred had the alleged truth not been fraudulently concealed, as alleged by Plaintiffs.⁶⁴ Below I discuss the issues regarding materiality and loss causation, from an economic point of view, in greater detail.

A. Materiality from an Economic Point of View

48. Material information is often defined as information that a reasonable investor would want to consider prior to making an investment decision. In *Basic Inc. v. Levinson*, 485 U.S. 224 (1988), the Supreme Court quoted *TSC Indus., Inc. v. Northway, Inc.*, 426 U.S. 438 (1976), which stated that a fact is material ““if there is a substantial likelihood that a reasonable shareholder

⁶⁴ From an economic point of view, a loss caused by fraud-related factors is the difference between an investor’s: (a) actual loss, less (b) estimated loss that still would have been incurred even in the absence of the alleged fraudulent conduct. This is the same economic principle used in event studies when calculating the abnormal returns, discussed above, *i.e.*, the difference between: (a) the actual return, less (b) the predicted return.

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would consider it important” in making an investment decision or if it would have “significantly altered the “total mix” of information made available” to the shareholder.⁶⁵ The issues that are important to investors, *i.e.*, the information that reasonable investors would want to consider prior to making an investment decision, are usually factors that impact the value of an investment.

49. From an economic point of view, the value of an investment is based on the expected future cash flows of that investment, including the timing and associated risk of such cash flows.⁶⁶ With respect to the Shenandoah, its value would be based on the future revenues, costs, and ultimately the future cash flows generated. Internally, Anadarko valued the Shenandoah at \$893 million before the suspension of appraisal activities, or approximately 6% of the \$15.5 billion book value for the entire Company.⁶⁷ While book value is an accounting measure and sometimes very different than the market value investors may assign to an asset, it is generally viewed as a conservative measure of value.⁶⁸ If successfully sanctioned, or developed, the value of the Shenandoah could be higher, with one analyst estimating \$5 per share.⁶⁹ Another firm,

⁶⁵ *Basic*, 485 U.S. at 231-32 (quoting *TSC*, 426 U.S. at 449).

⁶⁶ See Jerald E. Pinto, *et al.*, *Equity Asset Valuation*, John Wiley & Sons Inc., at 2, 18 (2d ed. 2010) (“The intrinsic value of any asset is the value of the asset given a hypothetically complete understanding of the asset’s investment characteristics. . . . An absolute valuation model is a model that specifies an asset’s intrinsic value. . . . The most important type of absolute equity valuation models are present value models. In finance theory, present value models are considered the fundamental approach to equity valuation. . . . A present value model or discounted cash flow model applied to equity valuation derives the value of the common stock as the present or discounted value of its expected future cash flows.”).

⁶⁷ APC-00734803 (Shenandoah book value as of March 31, 2017). \$893 million divided by \$15,500 million equals 6%. Anadarko \$15.5 billion book value is from the Company’s Form 10-K, filed with the SEC on February 17, 2017, at 88.

⁶⁸ During the Class Period, Anadarko’s book value ranged from \$14.6 billion to \$19.4 billion, while its market value was higher and ranged from \$15 billion to \$50 billion. Anadarko’s Financial Statements on Forms 10-Q and 10-K; Steinholt Class Cert. Report, ¶47.

⁶⁹ March 9, 2017, KLR Group analyst report on Anadarko, “Slightly Higher Oil Composition Offsets Higher Operating Expenses.”

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around the start of the Class Period, estimated the potential value of the Shenandoah to Anadarko at \$3.6 billion or \$7 per share.⁷⁰ Regardless of the exact value, leading up to and during the Class Period, the Shenandoah was viewed as an economically significant project for Anadarko that, in an efficient market, would be expected to significantly impact the Company's stock price. Internal documents reflect this reality. For example, after Shen-2's results were announced, Anadarko's former CEO Al Walker exclaimed in an email to other top executives that "we are on our way to 3 digits :),"⁷¹ referring to the price of Anadarko's stock.⁷² The economic importance of the Shenandoah is also demonstrated by Anadarko's statistically significant stock price decline following the suspension of Shenandoah appraisal activities, discussed in greater detail below.

B. Disclosure of the Alleged Truth

50. Loss causation relates to the question of whether an alleged fraud caused the plaintiff to suffer economic losses. In other words, there has to be some causal relationship between the alleged misrepresentations and the economic loss that a plaintiff seeks to recover.

51. Based on Plaintiffs' allegations, the alleged truth regarding the Shenandoah was disclosed after the market closed on May 2, 2017, and before the market opened on May 3, 2017. Consequently, the appropriate price movement to analyze for loss causation purposes is Anadarko's stock price decline on May 3, 2017. This also would include an analysis of other new and potentially material information unrelated to the Shenandoah (known as confounding factors) that was also disclosed to the market at the same time. Below, I will review the corrective disclosure regarding the suspension of appraisal activities at the Shenandoah, as well as the

⁷⁰ February 2, 2015, Capital One Securities analyst report, "Morning Energy Summary."

⁷¹ APC-00572955.

⁷² See October 26, 2022 Deposition Transcript of Robert G. Gwin at 79:6-22.

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potentially confounding factor Defendants raised at the class-certification stage relating to: (a) information contained in Anadarko's announcement of 1Q2017 results and FY2017 guidance that was unrelated to the Shenandoah disclosure, and (b) increased concerns regarding the regulatory environment in Colorado following an update and reactions by Governor Hickenlooper and others regarding the so-called Firestone Explosion.

1. May 2-3, 2017, Shenandoah Disclosure

52. On May 2, 2017, after the market closed, Anadarko announced its 1Q2017 results, provided guidance for 2Q2017 and FY2017, and disclosed that it was suspending appraisal activities of the Shenandoah. In short, for 1Q2017, Anadarko reported a loss of \$318 million (\$0.58 per share), predominantly as a result of \$902 million of Shenandoah write-offs and expenses, while maintaining its guidance for FY2017. Anadarko's May 2, 2017, press release, issued at 4:16 p.m., stated:⁷³

Anadarko Petroleum Corporation (NYSE: APC) today announced its first-quarter 2017 results, reporting a net loss attributable to common stockholders of \$318 million, or \$0.58 per share (diluted).

* * *

Anadarko recently completed drilling operations at the Shenandoah-6 appraisal and sidetrack well, which did not encounter the oil-water contact in the eastern portion of the field. The company has currently suspended appraisal activity in the field while it evaluates the path forward.⁷⁴

53. On May 2, 2017 at 4:16 p.m., when the 1Q2017 losses were disclosed, Anadarko's stock price declined 1.1%; one minute later, by 4:17 p.m., its stock price had declined 2.0%; and 2 minutes later, by 4:18 p.m., its stock price was down 2.3%, on trades with a dollar value of

⁷³ All times based on Eastern Standard Time.

⁷⁴ May 2, 2017, Anadarko press release, "Anadarko Announces First-Quarter 2017 Results." The press release did not provide any update regarding the Firestone Explosion.

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\$519,141. During this same time period, the stock prices of the four Colorado Peer Group companies did not decline at all as there were no trades, *i.e.*, the total dollar value of all of their trades was \$0. A May 2, 2017 *Bloomberg* article, published 8 minutes later at 4:24 p.m., with the headline “Anadarko 1Q Adjusted Loss Per Share Wider Than Est.; Shares Fall,” noted that Anadarko’s shares now were “down 3.5% since earnings release.”⁷⁵

54. Anadarko’s Form 10-Q, filed on May 2, 2017, at 4:26 p.m., revealed the dollar impact of the Shenandoah suspension, *i.e.*, the resulting write-off and expenses, on the Company’s earnings. It stated:

During the three months ended March 31, 2017, the Company expensed suspended exploratory well costs of \$435 million related to the Shenandoah project in the Gulf of Mexico, including \$267 million previously capitalized for a period greater than one year. The Shenandoah-6 appraisal well and subsequent sidetrack, which completed appraisal activities in April 2017, did not encounter the oil-water contact in the eastern portion of the field. Given the results of this well and the present commodity-price environment, the Company has currently suspended further appraisal activities. Accordingly, the Company determined that the Shenandoah project no longer satisfies the accounting requirements for the continued capitalization of the exploratory well costs.

* * *

- The Company recognized \$532 million of impairments of unproved Gulf of Mexico properties during the three months ended March 31, 2017, of which \$467 million related to the Shenandoah project. The unproved property balance related to the Shenandoah project originated from the purchase price allocated to the Gulf of Mexico exploration projects from the acquisition of Kerr-McGee Corporation in 2006.⁷⁶

⁷⁵ May 2, 2017, *Bloomberg*, “Anadarko 1Q Adjusted Loss Per Share Wider Than Est.; Shares Fall.”

⁷⁶ 1Q2017 Anadarko Form 10-Q, filed with the SEC on May 2, 2017, at 13, 37. The Form 10-Q did not provide any update regarding the Firestone Explosion.

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55. A *Bloomberg* article published at 4:43 p.m. stated that “Anadarko . . . reported a loss that missed estimates despite sales volumes that surged 20 percent,” and that the Anadarko shares “dropped 4.1 percent in after-hours trading as of 4:42 p.m. in New York.”⁷⁷

56. On May 2, 2017, Bernstein issued an analyst report on Anadarko discussing that the Shenandoah disclosure also would be a negative for its Shenandoah partner Cobalt International. It stated:

In the DW GOM, some tie-back success was overshadowed by a large Shenandoah impairment (\$467 mln) and dry hole expensing (\$435 mln). Note the negative read-across to [Cobalt International].⁷⁸

57. On May 2, 2017, Bank of America issued an analyst report on Anadarko discussing the earnings miss resulted, in large part, from the impact of the suspension of appraisal activities at the Shenandoah. It stated:

Messy quarter masks solid operating quarter

EPS of (\$0.60) missed consensus of a (\$0.23), but includes approximately \$350mm after tax write off (\$0.64) of its Shenandoah discovery in the US GoM, not stripped out as a special item. Adjusted for what is to us a non-recurring item⁷⁹

58. On May 2, 2017, RBC Capital Markets issued an analyst report on Anadarko discussing that the Shenandoah disclosure “could cause some market concern.”⁸⁰

⁷⁷ May 2, 2017, *Bloomberg*, “Anadarko Profit Misses Estimates Even as Driller Boosts Output.”

⁷⁸ May 2, 2017, Bernstein analyst report on Anadarko, “Quick Take (APC): APC may suffer overhang on Firestone and Shenandoah but remember the 3D vision with Delaware in focus.”

⁷⁹ May 2, 2017, Bank of America analyst report on Anadarko, “1Q17 recap: last messy quarter of the ‘old’ portfolio: rate of change ahead.”

⁸⁰ May 2, 2017, RBC Capital Markets analyst report on Anadarko, “Market Focus May Be Elsewhere” (“Core results look good but results at Shenandoah and the well incident in the DJ could cause some market concern.”).

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59. On May 2, 2017, BMO Capital Markets issued an analyst report on Anadarko discussing the negative Shenandoah disclosure. It stated:

GAAP EPS was impacted by exploration and impairments, which included \$902mm of Shenandoah writedowns as appraisal activity has been suspended as APC evaluates path forward following the #6 well. We valued Shenandoah at \$241mm and modeled no development capex/production.⁸¹

60. On May 2, 2017 Johnson Rice issued an analyst report on Anadarko also discussing the Shenandoah disclosure as a negative development. It stated:

On the operations side, we see one key positive, one negative development, and one emerging concern. The key positive is a natural gas discovery at the Gorgon well offshore Colombia. . . . The negative development is an unsuccessful appraisal well at Shenandoah

The area of emerging concern is in the DJ . . . the regulatory response to the accident is where the uncertainty and our concern lie.⁸²

61. The following day, on May 3, 2017, before the market opened, Anadarko held a conference call with analysts, during which the Company also addressed the suspension of appraisal activities at the Shenandoah. On the conference call, Anadarko's Executive VP-International & Deepwater Exploration, Defendant Ernest A. Leyendecker, stated:

We drilled the original well, which was designed to drill through the oil water contacts, and we did not see the oil water contacts in the well, so we backed up, and we sidetracked the well again towards the number 5 well where we had over 1,000 feet of pay looking for those oil water contacts again. And unfortunately, we did not get to completely prosecute the well to TD. We ran into some mechanical hole problems. We did see a partial section, so it was also inconclusive. And the challenges we've been having out there really are all related to try[ing] to image the structural fabric, and it's been one of our difficulties as we drill wells, we've

⁸¹ May 2, 2017, BMO Capital Markets analyst report on Anadarko, "1Q in Line, 2Q Lower but Full Year Unchanged; Shenandoah Appraisal Suspended."

⁸² May 2, 2017, Johnson Rice & Co. analyst report on Anadarko, "Sales Note: Noisy Quarter on Divestments; 2Q17 Guide Light, but 2017 Intact."

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found some surprises, some of them negative and some of them positive. So we felt it was appropriate really to stop and evaluate what our path forward would be.⁸³

62. On May 3, 2017, Atlantic Equities issued an analyst report on Anadarko, with the headline “Shenandoah field write-off overshadows results.” It stated:

- **Shenandoah write-off.** APC has written-off its Shenandoah project in the deepwater Gulf of Mexico and taken 1Q charges totaling \$1.4bn (\$2.52/share pre-tax or \$1.60/share post-tax). The move follows an unsuccessful sixth well and subsequent side track which did not find hydrocarbons, putting the scale of the field in doubt. Shenandoah was a high profile discovery which was considered to have potential to be a significant source of new production.⁸⁴

63. On May 3, 2017, Societe Generale issued an analyst report on Anadarko also discussing the “negative” Shenandoah disclosure. It stated:

The only GOM DeepH20 negative was Shenandoah-6, which was a dry hole and has caused APC to suspend appraisal activity.⁸⁵

64. On May 3, 2017, Goldman Sachs issued an analyst report on Anadarko discussing the Shenandoah disclosure and lowering its NAV (“net asset value”) estimate as a result. It stated:

Following unfavorable result from the Shenandoah well, APC is unlikely to pursue development of the project at current oil prices (consistent with previous commentary). We lower our NAV by \$1/shr associated with the Shenandoah prospect.⁸⁶

⁸³ May 3, 2017, Anadarko conference call, “Q1 2017 Anadarko Petroleum Corp Earnings Call,” at 8.

⁸⁴ May 3, 2017, Atlantic Equities analyst report on Anadarko, “Shenandoah field write-off overshadows results.”

⁸⁵ May 3, 2017, Societe Generale analyst report on Anadarko, “1Q17 Adjusted EPS Miss. Now 55% oil leveraged. Post asset sales, \$10.58/share in cash.”

⁸⁶ May 3, 2017, Goldman Sachs analyst report on Anadarko, “On track to meet 2017 outlook; lower asset sale proceeds negative.”

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65. On May 3, 2017, Ladenburg Thalmann issued an analyst report on Anadarko discussing the negative implications of the Shenandoah disclosure on the Company's reported earnings. It stated:

Lower EPS were primarily due to ~\$1.0 billion of dry hole and unproved property impairment expense (APC wrote off the costs associated with its deepwater GOM Shenandoah prospect as its #6 appraisal well did not encounter the oil-water contact on the eastern portion of the field).⁸⁷

66. On May 3, 2017, UBS issued an analyst report on Anadarko also discussing the negative Shenandoah disclosure. It stated:

Meanwhile, the Shenandoah-6 appraisal well and subsequent sidetrack did not encounter the oil-water contact on the eastern portion of the field. APC has currently suspended appraisal activity while it evaluates the path forward, including monetizing the field or abandoning it as economics are marginal at current oil prices. We carry just \$300 million worth of value for the field in our NAV.⁸⁸

67. On May 3, 2017, Macquarie issued an analyst report on Anadarko discussing the negative implications of the Shenandoah disclosure on the Company's "longer term growth" prospects. It stated:

- We would also highlight the company's decision to suspend appraisal drilling at Shenandoah and evaluate a path forward while taking a material impairment is also likely to weigh on the story. In the Gulf of Mexico, the near term focus is tiebacks with which the company continues to see success. However, with the determination that Shenandoah may not be a viable project at current crude prices, the longer term strategy in the GOM comes in to question. With 160 mboe/d of production, the near term strategy of tie backs can sustain production into 2019 but longer term growth is growing increasingly elusive, especially if an already discovered project like Shenandoah is not deemed economic.⁸⁹

⁸⁷ May 3, 2017, Ladenburg Thalmann analyst report on Anadarko, "Lower-than-Expected Q1 Results; Reiterates 2017 Production Guidance."

⁸⁸ May 3, 2017, UBS analyst report on Anadarko, "Large Exploration Expense Drives 1Q17 EPS/CFPS Miss but EBITDX Beats; Maintains 2017 Guidance."

⁸⁹ May 3, 2017, Macquarie analyst report on Anadarko, "Where Do We Go From Here?"

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68. On May 3, 2017, Wolf Research issued an analyst report on Anadarko, recognizing that the Company was very involved in deepwater exploration, stating that the suspension of the Shenandoah “does take away from APC’s premium for exploration, which is gone, and no longer in our price target.”⁹⁰

69. Anadarko’s suspension of appraisal activities relating to the Shenandoah also impacted Cobalt International Energy, one of Anadarko’s partners that had a 20% working interest in the Shenandoah. On May 3, 2017, *Bloomberg* reported that “Cobalt International Energy [was] cut to sell from neutral at Citi as Anadarko noted in its 1Q release suspension of further appraisal work at Shenandoah.”⁹¹ Also on May 3, 2017, Bernstein reportedly cut its target price for Cobalt from \$2.00 per share to \$1.20 per share, citing “Anadarko’s disclosures effectively halting development of the Shenandoah field.”⁹² Furthermore, a May 3, 2017, Cowen analyst report similarly noted that “[w]e and our equity colleague . . . who covers Anadarko, both believe that Anadarko put out disappointing news yesterday afternoon with respect to Shenandoah,”⁹³ and in a later analyst report on August 8, 2017, Cowen further explained that “[p]ost operator Anadarko’s write-down to the [Shenandoah] project in its Q1 results, we (and the market) had been ascribing little value here.”⁹⁴ Finally, Cobalt’s abnormal (or company specific) return on May 3, 2017, *i.e.*, following Anadarko’s Corrective Disclosure regarding the suspension of appraisal activities at the Shenandoah, was negative 11.3% and statistically significant at the 5% level.⁹⁵ In other words, the

⁹⁰ May 3, 2017, Wolfe Research analyst report on Anadarko, “Mr. Misunderstood – Always left out, never fit in.”

⁹¹ May 3, 2017, *Bloomberg*, “Cobalt Intl Cut at Citi as Anadarko Suspends Shenandoah Work.”

⁹² APC-00737640.

⁹³ May 3, 2017, Cowen & Co. analyst report on Cobalt, “Shenandoah Results A Negative.”

⁹⁴ August 8, 2017, Cowen & Co. analyst report on Cobalt, “Uncertainties Remain Post Q2.”

⁹⁵ Ferrell Class Cert. Report, Table 3.

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Shenandoah disclosure was viewed as new, negative information by Cobalt securities analysts and had a negative impact on Cobalt's stock price on May 3, 2017.

70. Based on my review of the evidence, including the above summary and my discussion in Section VIII.A. above, it is my opinion that the suspension of appraisal activities at the Shenandoah, disclosed by Anadarko after the market closed on May 2, 2017, represented new, negative, value-relevant information that a reasonable investor would have wanted to consider prior to making an investment decision in Anadarko. Below, in Section VIII.B.4., I will use an event study to quantify the negative impact of the Shenandoah disclosure discussed above.

2. May 2-3, 2017 Announcement of 1Q2017 Results (excluding Shenandoah) and FY2017 Guidance

71. On May 2, 2017, Anadarko announced 1Q2017 results and FY2017 guidance. As I will discuss below, the 1Q2017 results (excluding Shenandoah) were generally characterized as “good,” “in-line,” “solid,” “strong,” or a “beat,” while the FY2017 guidance was maintained. In the aggregate, this information generally met or exceeded investors' expectations. The Company's May 2, 2017, press release highlighted “record oil sales volume, significantly improved margins and strong cash flows.” It stated:

Anadarko Petroleum Corporation (NYSE: APC) today announced its first-quarter 2017 results, reporting a net loss attributable to common stockholders of \$318 million, or \$0.58 per share (diluted). These results include certain items typically excluded by the investment community in published estimates. In total, these items increased the net loss by \$12 million, or \$0.02 per share (diluted), on an after-tax basis. Net cash provided by operating activities in the first quarter of 2017 was \$1.12 billion.

FIRST-QUARTER HIGHLIGHTS

- Increased total year-over-year sales volume by approximately 20 percent on a divestiture-adjusted basis
- Achieved oil production of 353,000 barrels per day on a divestiture-adjusted basis, bolstered by record oil sales volume in the Deepwater Gulf of Mexico and Delaware Basin

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- Enhanced liquids product mix to 61 percent versus 53 percent year over year, contributing to significantly improved margins
- Completed Eagleford and Marcellus asset divestitures for net cash proceeds of \$2.8 billion, prior to final closing adjustments

“The first quarter of 2017 provides a clear picture of the power of our streamlined portfolio and the three ‘Ds,’ with record oil sales volume, significantly improved margins and strong cash flow,” said Al Walker, Anadarko Chairman, President and CEO. “We have largely completed our divestiture program and ended the quarter with nearly \$6 billion of cash on hand. These actions have increased our liquids product mix which, combined with the strengthening of commodity prices, substantially expanded our margins year over year. During the quarter, we continued to increase activity in the Delaware and DJ basins, adding six rigs to bring our current total to 21 across the U.S. onshore. In March, we also announced a 1.5-billion-barrel increase to our estimated net resources in the two basins, which now total more than 5 billion BOE. This proven performance, continuing efficiency gains and financial flexibility have us well positioned to deliver a compound annual oil growth rate of better than 15 percent over the next five years at current commodity prices while spending within cash inflows.”⁹⁶

72. Internally, the Company generally attributed the earnings miss to the write-off and expenses related to Shenandoah. An April 21, 2017 email from Anadarko’s investor relations director Robin Fielder to Defendant Al Walker, *et al.* stated:

Recall that we stripped out the Eagleford and Marcellus from guidance which implied a loss of \$(0.53)/share. With those divested assets added back, the midpoint of our guidance suggests \$(0.23)/share. The street consensus is very close to this at \$(0.22)/share, however we should report adjusted earnings of \$(0.60)/share, ***largely due to exploration expense associated with Shenandoah.***

* * *

The big driver of [the negative] EPS is the write-down of book value at Shenandoah.⁹⁷

⁹⁶ May 2, 2017, Anadarko press release, “Anadarko Announces First-Quarter 2017 Results” (footnote omitted). The press release also included a table with financial and operating guidance for 2Q2017 and FY2017.

⁹⁷ APC-00735955.

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73. On May 2, 2017, an RBC Capital Markets analyst report on Anadarko characterized the core 1Q2017 results as “good.” It stated:

Core results look good but results at Shenandoah and the well incident in the DJ could cause some market concern.

Core operations look good but earnings below expectations. APC reported 1Q17 recurring EPS/CFPS of (\$0.60)/\$1.84 below our estimates of (\$0.24)/\$2.12 and the Street consensus of (\$0.23)/\$1.98. We adjusted our CFPS estimate by \$323 million directly related to the tax impact on the asset sales. E&P capital of \$969 million, excluding WES, was below our \$992 million estimate and near the low-end of the \$950-1,150 million guidance range.

* * *

2017 Guidance maintained. There were no material changes to the \$4.5-4.7 billion capital budget and 644-655 Mboe/d production guidance. The 2Q17 production is 626-648 Mboe/d - production is expected to trend down 5% sequentially into 2Q17 related to Gulf of Mexico maintenance activity and prep-work for future well tie-ins. We expect onshore growth to continue its growth pattern, up 3% sequentially.⁹⁸

74. On May 2, 2017, a BMO Capital Markets analyst report on Anadarko with the headline “1Q in Line, 2Q Lower but Full Year Unchanged; Shenandoah Appraisal Suspended.” It stated:

1Q Mostly in line. Anadarko reported 1Q17 EPS of -\$0.60, below our/consensus -\$0.29/-0.23. EBITDAX of \$1,615mm was above our/consensus \$1,390mm/\$1,447mm, while CFO of \$1,123mm (\$423mm working capital) was above our/consensus \$1,072mm/\$1,092mm (EBITDAX/CFO aren’t divestiture adjusted). Total production (divestiture adjusted) of 672MBoe/d was in the upper half of guidance (655-678MBoe/d), but below our/consensus (median) 675MBoe/d/677MBoe/d. Oil of 353MBo/d was at the midpoint (351-356MBo/d), but below our/consensus (median) 358MBo/d. DJ, Delaware, and International volumes were in line with our model, while GOM was below. Capex (excluding WES) of \$969mm, was at the low end of guidance (\$950-1,150mm). Other U.S. onshore

⁹⁸ May 2, 2017, RBC Capital Markets analyst report on Anadarko, “Market Focus May Be Elsewhere.”

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capex of \$138mm (\$123mm in 4Q) suggests continued investment in exploration opportunities.⁹⁹

75. On May 2, 2017, a Bank of America analyst report on Anadarko also characterized the 1Q2017 operating results as “solid.” It stated:

Messy quarter masks solid operating quarter

EPS of (\$0.60) missed consensus of a (\$0.23), but includes approximately \$350mm after tax write off (\$0.64) of its Shenandoah discovery in the US GoM, not stripped out as a special item. Adjusted for what is to us a non-recurring item, 1Q17 looks like a break even quarter but still messy given assets held for sale. At the operating level “same store” sales production of 672,000 boepd was in the top half of guidance with all major metrics either in line or ahead. With that said, operating cashflow at \$1.1 bn looks in line with consensus albeit with offsetting puts and takes from the timing of deferred taxes and working capital contributions. Asset sales added \$2.8bn of cash to the balance sheet with all other cash items netting to zero, leaving APC with about \$6bn of available cash at end-1Q17 and in a strong position to execute the early part of its strategy of “at least” 15% oil CAGR, within cashflow, over the next five years.¹⁰⁰

76. On May 2, 2017, a Cowen analyst report on Anadarko also characterized the 1Q2017 operating results as “strong.” It stated:

Operations were strong with divestiture adjusted 2Q17 total production of 672 Mboe/d slightly above our estimate of 670 Mboe/d (excluding Marcellus and Eagle Ford volumes), but APC missed earnings expectations due to lower than anticipated realizations and writedown of the Shenandoah prospect.¹⁰¹

77. On May 2, 2017, 2017, a Credit Suisse analyst report on Anadarko characterized the 1Q2017 results as “strong.” It stated:

- **Bottom Line:** Let’s be clear, APC had a strong quarter with volumes at the upper end of guidance, EBITDAX ahead and capex at the lower end.

⁹⁹ May 2, 2017, BMO Capital Markets analyst report on Anadarko, “1Q in Line, 2Q Lower but Full Year Unchanged; Shenandoah Appraisal Suspended.”

¹⁰⁰ May 2, 2017, Bank of America analyst report on Anadarko, “1Q17 recap: last messy quarter of the ‘old’ portfolio: rate of change ahead.”

¹⁰¹ May 2, 2017, Cowen analyst report on Anadarko, “1Q17 Earnings at a Glance.”

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Cashflow was slightly below our expectations due to below the line items.¹⁰²

78. On May 2, 2017, a Raymond James analyst report on Anadarko characterized the 1Q2017 EBITDA results as a “beat.” It stated:

Anadarko reports a beat on EBITDA: Anadarko reported a beat on production for the first quarter at 794.8 MBoe/d vs RJ at 758.3 MBoe/d and the Street at 733.7 MBoe/d. Further, EBITDA came in above expectations at \$1,615 million vs RJ at \$1,483 million and consensus at \$1,466 million. Driving the beat was the above-mentioned production beat as well as strong cost controls. We should note that the majority of the beat was driven by gas volumes (1,859 MMcf/d vs Street expectations at 1,530 MMcf/d, with liquids production roughly in line. Specifically, LOE came in at \$3.61/Boe vs RJ at \$3.90/Boe while G&A was reported at \$3.76/Boe vs our expectation for \$3.96/Boe. Additionally, pricing beat on each product, with NGL pricing beating our expectation by 17% (\$27.17/Bbl vs RJ at \$23.30/Bbl). We should note that non-GAAP EPS of (\$0.60) missed RJ/Street expectations of (\$0.24). Driving the miss were after-tax impairments of almost \$600 million.¹⁰³

79. On May 2, 2017, a J.P. Morgan analyst report on Anadarko characterized the 1Q2017 results as “solid.” It stated:

JPM View: Stock Reaction-Mixed. Despite solid 1Q17 results (production and EBITDAX beat relative to our model) and the reiteration of its recently provided full-year guidance during the March analyst call, we expect a mixed reaction to the print given the weaker Q217 guide owing to GoM shut-ins for well tie-ins and maintenance and lingering uncertainty associated with the home explosion incident in the DJ Basin.¹⁰⁴

80. On the morning of May 3, 2017, Anadarko held a conference call with analysts. On the call, the Company was asked to explain the apparent weakness of the 2Q2017 guidance relative to the FY2017 guidance that was maintained. According to the Company, the lower 2Q2017

¹⁰² May 2, 2017, J.P. Morgan analyst report on Anadarko, “Exploration Expense Drives Miss, Volumes Should Rise in 2H, Colorado in Focus.”

¹⁰³ May 2, 2017, Raymond James analyst report on Anadarko, “1Q17 Quick Take: Anadarko Reports Solid First Quarter.”

¹⁰⁴ May 2, 2017, J.P. Morgan analyst report on Anadarko, “1Q17 Flash: Unfortunately, It’s Deja Vu All Over Again; Stock Reaction Mixed – ALERT.”

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guidance related to the timing of maintenance and did not impact FY2017 guidance. The conference call transcript states:

[Arun Jayaram of JPMorgan:] I was wondering, Al, if you could talk a little bit the 2Q guide. I mean, I know you reiterated your full year guide, but the 2Q guide was a little bit below where The Street was at, and I just wondered if you could maybe comment on that as well as your confidence in reaching your year-end growth targets in the Delaware and the DJ.

[R.A. Walker, Chairman, President & Chief Executive Officer:] Well, actually, I appreciate you asking the question, Arun. As you know, we guide for a full year, and it's really left up to the respective individuals as they write their own research to do what they believe are our quarter-to-quarter results. Consequently, by reaffirming what we think we will see for the year, I think we're saying is that we're not really as worried as some about the sequential progression from first to second quarter. That progression was expected, and consequently, the performance we see, in particular, out of our onshore U.S. assets is quite strong, so there's no read-through of concern there. It's really more – we don't guide quarter-to-quarter and respect the fact that that's a job that's difficult to do for those of you that write research on us and others. But from our perspective, the sequential decline was anticipated.

[Arun Jayaram of JPMorgan:] And what was the driver of the sequential decline, Al?

[R.A. Walker, Chairman, President & Chief Executive Officer:] Well, so I'm going to let Darrell address that if I can. It's really more related to maintenance.

[Derrell E. Hollek, Executive Vice President, Operations:] Yes, Arun, that's really almost all related to maintenance here in the Gulf of Mexico and some of our bigger facilities. But again, to Al's point, that has been scheduled, and it's baked in our numbers all along. So it doesn't change our year-end guidance, but it was part of what we expected on a quarter-on-quarter basis.¹⁰⁵

81. Based on my review of the evidence, including the above summary, it is my opinion that Anadarko's 1Q2017 results (excluding Shenandoah) were generally viewed positively (*e.g.*, as "good," "in-line," "solid," "strong," or a "beat"), while its FY2017 guidance that was maintained, thereby generally meeting or exceeding expectations (with possibly lower than

¹⁰⁵ May 3, 2017, Anadarko conference call, "Q1 2017 Anadarko Petroleum Corp Earnings Call," at 6-7.

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expected 2Q2017 guidance explained by the timing of maintenance). Consequently, in my opinion, the 1Q2017 results and FY2017 guidance, in aggregate, would be expected to have a neutral to slightly positive impact on Anadarko's stock price and, therefore, did not cause Anadarko's statistically significant price decline on May 3, 2017.

3. The April and May, 2017 "Firestone" News

82. On April 17, 2017, a single-family home in Firestone, Colorado, was destroyed by an explosion, killing two men inside the home. On April 26, 2017, Anadarko issued a press release, linking the explosion to an Anadarko well approximately 200 feet from the explosion, and announcing a proactive measure of investigating 3,000 wells of the same vintage in northeast Colorado. The press release stated:

While there is still much that is not yet known regarding the potential contributing factors, Anadarko operates an older vertical well that was drilled by a previous operator in 1993 and is located approximately 200 feet from where the home was recently built. As such, the company has been working cooperatively with fire officials and state regulatory agencies in their investigations since the time of the accident.

While these events remain under active investigation and much remains to be determined, in an abundance of caution, since the company operates more than 3,000 producing vertical wells of the same vintage, it has taken proactive measures to shut in all vertical wells across the counties in northeast Colorado where it operates. The wells will remain shut in until the company's field personnel can conduct additional inspections and testing of the associated equipment, such as facilities and underground lines associated with each wellhead. Particular focus is being placed on areas where housing and commercial developments are occurring in close proximity to existing infrastructure. The wells will not be restarted until each has undergone and passed these additional inspections. Anadarko currently anticipates the process will take two to four weeks, depending on weather. The wells currently account for total production of about 13,000 net barrels of oil equivalent per day.¹⁰⁶

¹⁰⁶ April 26, 2017, Anadarko press release, "Anadarko Issues Statement Regarding Colorado Operations."

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83. On April 27, 2017, an Evercore analyst report on Anadarko discussed the potential impact of the Firestone Explosion on the Company (impact of the “shut-in production and any physical remediation is likely immaterial”), that there is “no immediate threat to the environment or public safety associated with oil and gas operations in the neighborhood,” and that other Colorado operators exposed to potential regulatory responses may also be negatively impacted. It stated:

APC released a statement yesterday evening that caught the market (and us) off guard. The stock underperformed by 300 bps (vs. XOP) today in a tough tape for the broader sector. Unknowns remain in regards to the causes and implications of the proactive announcement by APC and the event in question. Our view is that while the value implication directly associated with the shut-in production and any physical remediation is likely immaterial for APC, and the market likely overreacted to the tangible value implication of the incident today, information flow may remain uneven near-term and the precise facts surrounding the incident remain unclear. We look forward to clarity from the Colorado regulatory authorities and APC when available (APC reports 1Q results, Tuesday May 2nd, AMC).

* * *

- On the day of the explosion APC, PUC, and public utility personnel all responded. COGCC responded the following day (April 18th) and has been on the scene every weekday since. Since then COGCC environmental staff responded to gather environmental samples at the site of the explosion and has tested for fugitive methane or other hydrocarbons in the neighborhood. COGCC noted that “based on all of its investigations it believes there is no immediate threat to the environment or public safety associated with oil and gas operations in the neighborhood” and also that pending a more complete understanding of the circumstances involved, COGCC would consider other near-term actions that could be required by operators either field-wide or state-wide to address any ‘specific issues’ identified by the investigation.

* * *

DJ basin exposed peers underperformed today on sympathy (NBL, SRC, XOG, PDCE). With setbacks in urban areas a ballot issue in previous elections, an area of focus will likely be any change in forward regulations. Current set back rules stipulate horizontal wells must be set back 500+ ft.¹⁰⁷

¹⁰⁷ April 27, 2017, Evercore analyst report on Anadarko, “APC Colorado Shut-ins.”

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84. On April 27, 2017, a Capital One analyst report on Anadarko characterized the potential production impact of Anadarko's shut-in as "negligible." It stated:

- **Upshot: Following a home explosion, APC shut in ~3,000 producing vertical wells in Wattenberg that account for ~2% of APC's company-wide production.** APC estimates 2 - 4 weeks of downtime. Assuming a 4-week outage, it would impact our 2Q production est of 645 Mboe/d by -0.7% and our FY17 est of 695 Mboe/d by a negligible -0.2%.¹⁰⁸

85. On April 27, 2017, a J.P. Morgan analyst report on Anadarko characterized the potential financial impact of Anadarko's shut-in as "modest," and reiterated the fire department's conclusion that there was "no threat to surrounding homes." It stated:

While there are a significant number of unknowns at this point, we believe there are two facts that are important from an APC shareholder standpoint: (1) while the home where the incident occurred was located approximately 200 ft from the legacy well that is operated by APC, the home was built more than 20 years after the well was placed onto production in 1993. Based on the facts in the case, there does not appear to be a violation of the 500 ft setback rules by APC; (2) a statement from local officials and the fire department have determined that there is "no threat to surrounding homes" near the incident, which suggests to us that the legacy well may not have been leaking prior to the incident.

* * *

- **Financial impact appears modest, assuming APC is not at fault:** Exercising an abundance of caution, APC has decided to shut-in approximately 3,000 vertical wells of the same vintage (~13 MBoe/d of production) to inspect associated equipment and flow lines. This process is expected to take approximately 2 to 4 weeks to complete. Assuming the production is offline for 1 month, this would negatively impact our 2017 CFPS estimate by less than 1%.¹⁰⁹

¹⁰⁸ April 27, 2017, Capital One analyst report on Anadarko, "APC Reports Downtime in Wattenberg."

¹⁰⁹ April 27, 2017, J.P. Morgan analyst report on Anadarko, "Lots of Unknowns, But Two Key Facts from DJ Basin Incident - ALERT."

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86. On April 27, 2017, a Morgan Stanley analyst report on Anadarko characterized the potential cash flow impact of Anadarko's shut-in as "modest," but that the incident could negatively impact the regulatory environment for Colorado operators. It stated:

What is the impact? APC estimates the production impact is 13,000boed net, 75% of it gas while the wells remain shut-in for inspection. We estimate the cash flow impact is modest given higher gas cuts. The broader impact is unclear as the cause of the fire is unknown. The explosion, if caused directly or indirectly, by oil and gas activity, could negatively impact the Colorado energy regulatory environment. . . . Overhang of the potential regulatory response will likely remain until the cause of the fire has been determined and disclosed by authorities given the DJ is a core region to APC (4,000+ drilling locations and 1.5+Bn Boe of resource).¹¹⁰

87. On April 27, 2017, a Wells Fargo analyst report on Anadarko discussed the potential impact of the Firestone Explosion on the Company (shut-in impact "not that meaningful") and the Colorado energy regulatory environment ("overhang" on stock price of Anadarko and other DJ producers). It stated:

In response to a tragic explosion that occurred in Firestone, CO on April 17, Anadarko has made the decision to shut-in 3,000 DJ Basin vertical wells which account for roughly 13 Mboe/d. While investigators believe they have determined the cause of the blast, that information has not been released. The explosion did occur about 200 feet from an operated APC legacy vertical well (1993 vintage), and the severe nature of the explosion (2 deaths) has prompted APC, out of "an abundance of caution," to inspect all field equipment associated with its vertical DJ Basin wells. This inspection, which includes underground lines, should take 2 - 4 weeks, and wells are expected to be placed back online following inspection.

Though 13 Mboe/d over a 2 - 4 week period is not that meaningful for APC volumes (774 Mboe/d in 4Q16) or cash flow, we believe there will be an overhang (concerns around regulatory and/or litigation) on shares until more clarity is reached. Other DJ producers that might feel some pressure resulting from this incident include NBL and PDCE and to a lesser extent XOG and SRCI. We recommend near-term caution until more definitive information is released with respect to what caused the accident.¹¹¹

¹¹⁰ April 27, 2017, Morgan Stanley analyst report on Anadarko, "Colorado Uncertainty."

¹¹¹ April 27, 2017, Wells Fargo analyst report on Anadarko, "APC: Statement On Colorado Explosion."

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88. As discussed above, Anadarko's shut-in of the 3,000 Colorado Wells represented a temporary measure that only included a small fraction of the Company's oil and natural gas output, and would therefore only be expected to have a "modest" impact on the Company's cash flows and, thereby, stock price. A much greater threat was the potential regulatory responses in Colorado.¹¹² Further, the increased risk of tougher regulation for the industry would not only impact Anadarko but also other Colorado operators, such as the companies making up the Colorado Peer Group: Noble Energy, PDC Energy, SRC Energy, and Extraction Oil & Gas.¹¹³

89. Following the Company's April 26, 2017, disclosure, after the market closed, Anadarko's stock price declined to \$57.12 per share on April 27, 2017, from \$59.96 per share the prior day, a decline of \$2.84 per share or 4.7%, on volume of 14.1 million shares, or more than three times the median daily volume during the Class Period. An event study using the S&P 500 index as a proxy for the market and the E&P Peer Group index as a proxy for the general industry results in a statistically significant residual price decline for Anadarko at the 5% level, *i.e.*, the S&P 500 index and the E&P Peer Group index did not explain the price decline in Anadarko's stock price. However, the Colorado Peer Group index declined -4.4% on April 27, 2017, almost as much as Anadarko, and using the Colorado Peer Group index as a proxy for potential concerns regarding the Colorado regulatory environment (instead of the E&P Peer Group index) no longer results in a statistically significant residual price decline for Anadarko at the 5% level, or 10%

¹¹² May 2, 2017, *Bloomberg*, "Anadarko Profit Misses Estimates Even as Driller Boosts Output" ("Shares dropped last week [April 27, 2017] after the company said it would close 3,000 Colorado wells as part of an investigation into a deadly house explosion earlier in April. The wells represent a tiny fraction of Anadarko's oil and natural gas output, but the blast raises the risk of tougher regulation for the industry, analysts at Houston investment bank Tudor Pickering Holt & Co. said in an April 27 note.").

¹¹³ *See supra*, ¶¶83, 87; April 27, 2017, Evercore analyst report on Anadarko, "APC Reports Downtime in Wallenberg"; April 27, 2017, Wells Fargo analyst report on Anadarko, "APC: Statement On Colorado Explosion."

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level for that matter.¹¹⁴ This analysis is consistent with investors becoming concerned about the Colorado regulatory environment following the April 26, 2017 announcement, and confirms that the Colorado Peer Group index can be used to control for potential concerns regarding the Colorado regulatory environment.

90. On May 2, 2017, *The Denver Post* wrote an article with the headline: “Deadly Firestone explosion caused by odorless gas leaking from cut gas flow pipeline. Governor orders inspection of all oil and gas lines within 1,000 feet of occupied homes.” It stated:

A fatal house explosion was caused by odorless gas seeping from a cut-off underground pipeline into the house through French drains and a sump pit, Frederick-Firestone Fire Protection District chief Ted Poszywak said.

* * *

Soon after the firefighters released their report Tuesday, Gov. John Hickenlooper ordered oil and gas companies statewide to inspect and pressure-test oil and gas flowlines within 1,000 feet of occupied buildings.

Hickenlooper said companies must make sure flowlines not in use are properly marked and capped, and that any abandoned flowline cut off underground is sealed.¹¹⁵

91. According to *The Denver Post* article, the fire department confirmed the Anadarko well was the source of the gas in the Firestone Explosion, although it was a severed pipeline that caused it, and that the adjacent homes were not in any danger.¹¹⁶ Furthermore, no additional shut-

¹¹⁴ As before, given that Extraction Oil & Gas only started to first trade on October 12, 2017, the control period for this new event study regression is not a full year, but the 134 trading days prior to April 27, 2017.

¹¹⁵ May 2, 2017 (after the market closed at 4:51 p.m.), *The Denver Post*, “Deadly Firestone explosion caused by odorless gas leaking from cut gas flow pipeline. Governor orders inspection of all oil and gas lines within 1,000 feet of occupied homes,” <https://www.denverpost.com/2017/05/02/firestone-explosion-cause-cut-gas-line/>.

¹¹⁶ *Id.* *The Denver Post* online article also included a video of the Frederick-Firestone Fire Department press conference during which its district chief Ted Poszywak also stated: “I want once again to reiterate that no adjacent homes are in any danger as a result of the severed line. . . .

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ins or other actions in response to the Firestone Explosion were announced by Anadarko, and there was no evidence provided of any wrongdoing by Anadarko. Instead, the response by Governor Hickenlooper, and others in the article increased analyst concerns regarding further regulatory actions in Colorado.¹¹⁷

92. On May 2, 2017, a Wells Fargo equity research report discussed the impact of the Firestone Explosion on the regulatory environment in Colorado and on Colorado operators in general, specifically those making up the Colorado Peer Group. It stated:

- **Uncertainty an Overhang on APC . . .** Preliminary findings of the Firestone Fire Department were that the “origin and cause of the explosion” was gas from an abandoned gas flowline, which was connected to a nearby Anadarko well. There has not yet been an assignment of negligence or fault determined (and we are not saying that we believe APC is guilty), but until more clarity is reached we see an overhang on APC shares.
- **. . . And Regulatory Concern could Pressure all DJ Players.** Our decision to move to the sidelines on our other previously Outperform rated DJ names, SRCI and XOG, reflects our belief that all DJ basin-exposed names will remain under pressure given the fear of a potential regulatory response. The other two prominent DJ players in our universe include Noble Energy (NBL, \$31.42) and PDC Energy (PDCE, \$54.77), both of which remain Market Perform rated. Of note, the Colorado Oil and Gas Conservation Commission (COGCC) has already issued operator notices requiring inspection of abandoned and existing flowlines, and we would expect further regulatory action from the COGCC moving forward. In addition, the incident also likely activates the anti-drilling contingent of the Colorado population.¹¹⁸

93. The next day, on May 3, 2017, Anadarko held a conference call with analysts during which the Company was asked questions about the Firestone Explosion:

The adjacent well and all flowlines have been tested and verified in safe condition and the well remains in shut-off condition.” *Id.*

¹¹⁷ *Id.* In addition to Governor John Hickenlooper, State Senator Matt Jones and the Sierra Club were cited in *The Denver Post* article.

¹¹⁸ May 2, 2017, Wells Fargo equity research report, “E&P: Downgrading APC, SRCI, And XOG.”

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[David Tameron of Wells Fargo:] And now back to the DJ, just obviously a horrible situation with the incident out at Firestone. But if I think about – you guys shut in 3,000 vertical wells, and I think you said at the time that production was 13[,000 net barrels of oil equivalent] a day. If I start thinking about vertical production and just – does it make sense – economic sense, when we start talking about whatever inspections or mediations or go forward basis, does it make sense just to shut some of those wells in from an economic standpoint regardless of what the investigation finds?

[R.A. Walker, Chairman, President & Chief Executive Officer:] David, the best way I can answer your question is the way I answered one earlier. We are like others in our industry responding to what the governor requested last evening, and I really can't answer your question at this point other than to say, last week, we announced we shut in those 3,000 wells on an abundance of caution at that time. That was taking 13,000 barrel equivalents off the market, of which about 3/4 is natural gas. So beyond that, I really don't know anything I can tell you relative to the question you asked me.

* * *

[Evan Calio of Morgan Stanley:] [I]f there were to be any regulatory change as a result, what is the sensitivity of your location count to any changes, if there were to be any changes in the setback performance, also observing what the apparent cause may or may not be[?]

[R.A. Walker, Chairman, President & Chief Executive Officer:] Well, Evan, at this point the rules and regulations promulgated by the regulator are what they are, and we're very much in compliance with those. For me to answer your question, I would have to understand what the regulator contemplate beyond what's in place today. So all I can say is that we're very compliant with the regulations that are being currently applied by the Colorado regulator.¹¹⁹

94. On May 3, 2017, a Credit Suisse analyst report on Anadarko explained that the cost of potential remedies was “manageable,” but the “larger risk” was the increased Colorado regulatory risk, such as more stringent setback rules. It stated:

- We estimate the cost of plugging and abandoning a well is around \$100k. One could take the number of flow lines, map which ones are close to habitation, suggest a percent might need some remediation and calculate a number. 14k total wells at APC * 10% * \$100k = \$140m. These are manageable costs versus the share price reaction. Again bear in mind that

¹¹⁹ May 3, 2017, Anadarko conference call, “Q1 2017 Anadarko Petroleum Corp Earnings Call,” at 11, 17.

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wells are subject to annual testing already. There will be appropriate compensation in addition.

- ***The larger risk would be whether Colorado introduce a setback rule*** which precludes new drilling, something the electorate recently rejected. The industry will clearly present the data from their annual integrity testing, and the current testing to assuage public opinion.¹²⁰

95. On May 3, 2017, a Morgan Stanley analyst report on Anadarko also explained why the “broader and potentially larger impact, is the potential Colorado energy regulatory impact.” It stated:

(1) The liability question is unclear and is predicate on whether the line was severed in connection in the new house construction or was a failure in the abandonment or monitoring process. . . .

(2) The broader and potentially larger impact, is the potential Colorado energy regulatory impact is also unclear, yet more likely in some degree. Overhang of the potential regulatory response will likely remain until the liability has been determined and disclosed by authorities. . . .

(3) The impact of production shut-ins is clearest and easiest to assess. APC estimates the production impact is 13,000 boed net, 75% of it gas, while the wells remain shut-in for inspection. APC expects this to last 3-4 weeks. We estimate the cash flow impact is modest given higher gas cuts.¹²¹

96. On May 3, 2017, a Guggenheim analyst report on Anadarko discussed the impact resulting from the regulatory ramifications of the Firestone Explosion. It stated:

The tragedy in Colorado on April 17 overshadows resource and operating momentum in the quarter as the company enters development mode in the Delaware basin and tinkers with a new completion design in the DJ basin. Shares could face headwinds until the regulatory ramifications are sorted out.¹²²

¹²⁰ May 3, 2017, Credit Suisse analyst report on Anadarko, “Colorado is Not Macondo” (emphasis added).

¹²¹ May 3, 2017, Morgan Stanley analyst report on Anadarko, “1Q17: Headwinds Accumulate; Move to EW.”

¹²² May 3, 2017, Guggenheim analyst report on Anadarko, “APC – No Rest for the Weary.”

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97. On May 3, 2017, a UBS analyst report on Anadarko also discussed the increased regulatory concerns. It stated:

[I]nvestigators confirmed the recent home explosion in Firestone, CO was caused by an abandoned, severed one inch gas line that was still connected to APC's nearby well & had not been sealed off properly (several uncertainties are still under investigation including when the line was cut, how it was cut, and who is responsible).

* * *

- **Market concerns stem from Colorado's history of getting public pushback on oil and gas drilling in the state.** . . . Thus, the recent home explosion in Firestone, CO is prompting concerns that this tragedy will at a minimum raise operating costs and potentially embolden anti-development efforts similar to initiative #78.¹²³

98. Based on my review of the evidence, including the above summary, it is my opinion that the update provided after the market closed on May 2, 2017, appears to have caused increased concerns regarding potentially new regulatory action in Colorado. This is further supported by the fact that the E&P Peer Group index slightly increased, while the Colorado Peer Group decreased. Consequently, below, I will use the Colorado Peer Group index, as opposed to the E&P Peer Group index, to control for industry factors, which would include factors related to the Colorado regulatory environment.

4. May 3, 2017, Shenandoah Price Impact

99. On May 3, 2017, Anadarko's stock price declined to \$51.95 per share, down from \$56.28 per share the prior day, a decline of \$4.33 per share, or -7.69%, on volume of 21.1 million shares, or approximately five times the median daily volume during the Class Period. Based on my review of the evidence, discussed above, it is my opinion that this decline in Anadarko's stock

¹²³ May 3, 2017, UBS analyst report on Anadarko, "Large Exploration Expense Drives 1Q17 EPS/CFPS Miss but EBITDX Beats; Maintains 2017 Guidance."

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price was not caused by the Company's announcement of its 1Q2017 results, which absent the Shenandoah write-off and expenses, were generally viewed positively (*e.g.*, as "good," "in-line," "solid," "strong," or a "beat"), nor the Company's FY2017 guidance that was maintained, thereby generally meeting or exceeding expectations (with possibly lower than expected 2Q2017 guidance explained by the timing of its maintenance). Instead, it is my opinion that the decline in Anadarko's stock price was caused by: (a) the suspension of appraisal activities at the Shenandoah, including the resulting \$902 million write-off and expenses; and (b) increased concerns regarding the Colorado regulatory environment which would impact all Colorado operators. Consequently, to estimate the price impact of the Shenandoah disclosure, I performed an event study using the S&P 500 index as a proxy for market factors and the Colorado Peer Group index as a proxy for industry factors, including the Colorado regulatory environment. Based on this event study, I estimated the impact of the May 3, 2017, Shenandoah disclosure to be -3.42%, or negative \$1.92 per share, translating into a reduction of Anadarko's market capitalization by \$1,075 million.¹²⁴ This is further evidence that the Shenandoah disclosure contained value-relevant information that negatively impacted Anadarko's stock price.

C. Loss Causation Conclusion

100. Based on the above, it is my opinion that: (a) Defendants' alleged scheme and misleading statements regarding the Shenandoah contained, or omitted, information that a reasonable investor would have wanted to consider prior to making an investment decision, and caused Anadarko's common stock to trade at artificially inflated prices during the Class Period; and (b) when Anadarko publicly disclosed the alleged truth regarding the Shenandoah after the

¹²⁴ See *supra*, ¶45.

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market closed on May 2, 2017, and in the morning of May 3, 2017, Anadarko's stock price declined, causing Class members to suffer economic damages as a result of the alleged fraud.

IX. ECONOMIC FRAMEWORK TO QUANTIFY SECTION 10(b) DAMAGES

101. The loss-causation section above focused on the existence of damages for Class members who purchased Anadarko's common stock during the Class Period. In this section I will discuss the quantification of the resulting Section 10(b) damages. It is my understanding that the so-called out-of-pocket methodology is the appropriate measure for calculating damages under Section 10(b) of the Securities Exchange Act of 1934. The out-of-pocket measure quantifies the damages based on the stock price inflation, *i.e.*, the amount Class members overpaid for their shares as a result of the alleged fraud. The event study damages framework, explained below, can be used to quantify Class-wide damages in this case. In addition, recoverable damages are limited by the Federal 90-Day Bounce Back Rule.

A. Section 10(b): Out-of-Pocket Damages

102. Securities cases, such as this one, generally involve allegations that defendants misled investors, either by (a) making affirmatively false or misleading statements that concealed some material information, and/or (b) omitting material information. The material information concealed or omitted is commonly referred to as the alleged truth, or relevant truth. In an efficient market, concealing an alleged truth that is materially different than the public mix of information will distort the stock price and cause it to trade at artificially inflated prices. Investors who overpaid for their shares as a result of the artificially inflated prices are then damaged when the alleged truth is disclosed (or partially disclosed), and the stock price declines as a result. Consequently, quantifying the fraud-related portion of the price decline caused by the disclosure of the alleged truth, is key to quantifying Class-wide damages.

103. As noted in one frequently referenced academic article:

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The most common method of calculating damages in Rule 10b-5 cases is the out-of-pocket measure. This test fixes recovery as the difference between the purchase price and the value of the security at the date of purchase less the difference between the sale price and the value of the security at the date of sale.

* * *

Once one calculates the value line, the measure of damages for an investor is simply the difference between the price and the value on the date of purchase, or, for plaintiffs who sold their securities before the corrective disclosure, the difference between the price inflation at the time of purchase and the price inflation at the time of sale. If the inflation at the time of sale equals or exceeds the inflation level on the purchase date, the investor has recouped his loss from the marketplace and has no claim for recovery of damages.¹²⁵

104. For shares purchased during the Class Period and still owned at the end, the measure of out-of-pocket damages is simply the inflation at the time of purchase. In this case, for shares sold prior to the end of the Class Period, damages are zero. Furthermore, the recoverable damages are also limited by the Federal 90-Day Bounce Back Rule that became effective on January 1, 1996.

B. Quantifying the Inflation

105. The event study damages framework is a well-accepted framework for calculating class-wide damages in class action securities cases. First, the impact of the disclosure of the alleged truth (the event) on the stock price is quantified using an event study.¹²⁶ Second, this fraud-related impact is then used as the inflation from the misrepresentations concealing the alleged truth until its disclosure. Third, because each Class member purchased and/or sold their shares at market prices, after quantifying the inflation, the Class members' individual damages can now be calculated based on the inflation at the time of their respective purchases and sales.

¹²⁵ Bradford Cornell & R. Gregory Morgan, *Using Finance Theory to Measure Damages in Fraud on the Market Cases*, 37 UCLA L. Rev. 883, 885-86 (June 1990).

¹²⁶ See Mitchell & Netter (1994), *supra* n.32.

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106. The quantification of the inflation in this case is first and foremost based on the abnormal return on May 3, 2017 of -3.42%. This translates into a dollar inflation of \$1.92 per share (May 2, 2017 closing price of \$56.28 per share times 3.42%). Since market, industry, and so-called “Firestone” factors are accounted for by the event study, there are no other material possibly confounding factors that could have explained Anadarko’s May 3, 2017 price decline. The inflation will therefore be based on the \$1.92 per share Company-specific price decline on May 3, 2017.¹²⁷ However, on July 26, 2016, after the market closed, Anadarko announced that it increased its working interest in Shenandoah from 30% to 33%.¹²⁸ Consequently, to account for this increase, I reduced the inflation in the early part of the Class Period from February 21, 2015 through July 26, 2016, to \$1.75 per share.¹²⁹ Also, recoverable damages are limited by the Federal 90-Day Bounce Back Rule.¹³⁰ See Exhibit D.

107. For shares purchased during the Class Period and still owned at the end, the measure of out-of-pocket damages is simply the inflation at the time of purchase. In this case, for shares

¹²⁷ Keeping the inflation constant on a dollar basis is the most common approach when quantifying Section 10(b) damages. An alternative to this approach is to use the -3.42% abnormal price decline as a constant percentage inflation. In other words, the inflation would be 3.42% of Anadarko’s stock price from July 27, 2016 through May 2, 2017, and 3.11% of Anadarko’s stock price from February 21, 2015 through July 26, 2016. The justification for doing so would be to account for market forces (*e.g.*, oil & gas prices, etc.) operating on the fraud. Richard Kaplan, *et al.*, “Rediscovering the Economics of Loss Causation,” 6 J. Bus. & Sec. L. 93, 105 (2006). This alternative approach would lead to higher inflation (and thus damages) on most days during the Class Period.

¹²⁸ See *supra*, ¶22.

¹²⁹ (\$1.92 per share Company-specific price decline on May 3, 2017) divided by (33%) times (30%) = \$1.75 per share. Because the first alleged misrepresentation occurred after the market closed on February 20, 2015, the first day with inflation would be the next day, February 21, 2015.

¹³⁰ 15 U.S.C. §78u-4(e). According to this Rule, recoverable damages are limited to, either: (a) the purchase price per share less the average closing price from May 3, 2017 through the day of the sale, if sold on or prior to July 31, 2017; or (b) the purchase price less \$47.88 per share (90-day average closing price after the Class Period) if still retained at the end of July 31, 2017.

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sold prior to the end of the Class Period, damages are zero, as the inflation at the time of purchase is always equal to or less than the inflation at the time of sale. Furthermore, the recoverable damages are also limited by the Federal 90-Day Bounce Back Rule.¹³¹

Executed this 9th day of November, 2022, in San Diego, California.



BJORN I. STEINHOLT, CFA

¹³¹ 15 U.S.C. §78u-4(e). According to this Rule, recoverable damages are limited to, either: (a) the purchase price per share less the average closing price from May 3, 2017 through the day of the sale, if sold on or prior to July 31, 2017; or (b) the purchase price less \$47.88 per share (90-day average closing price after the Class Period) if still retained at the end of July 31, 2017.

EXHIBIT A

Bjorn I. Steinholt, CFA

Caliber Advisors, Inc.

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Telephone: (858) 549-4900 • Facsimile: (858) 549-9317
Bjorn@CaliberAdvisors.com

Employment History

Caliber Advisors, Inc.

Managing Director (2014 to present)

Caliber Advisors is a full-service valuation and economic consulting firm. Mr. Steinholt provides a broad range of capital markets consulting, including financial and economic analyses relating to mergers and acquisitions, initial public offerings, fairness opinions, structured finance, portfolio risk management, market structure, securities analysis and financial valuations, including litigation consulting and expert testimony relating to the economic issues that arise in large complex securities fraud cases.

Financial Markets Analysis, LLC

Principal (2000 to 2014)

Financial Markets Analysis was a financial valuation and economic consulting firm that primarily focused on providing economic analyses and expert testimony relating to securities analysis and financial economics. Mr. Steinholt provided capital markets consulting, financial valuation services, and various litigation consulting and expert testimony in large complex securities fraud cases.

Business Valuation Services, Inc. (subsidiary of CBIZ, Inc.)

Principal (1999 -2000)

Vice President (1998-1999)

Business Valuation Services was a national full-service financial valuation firm. Mr. Steinholt provided valuations of businesses and financial securities, including common stock, warrants, options, preferred stock, debt instruments and partnership interests, as well as intangible assets such as patents, trademarks, software, customer lists, work-force and licensing agreements. Mr. Steinholt also provided litigation support in shareholder disputes.

Princeton Venture Research, Inc.

Senior Vice President (1996-1998)

Vice President (1993-1996)

Financial Analyst (1990-1993)

Princeton Venture Research was a venture capital, investment banking and economic consulting firm. Mr. Steinholt provided various financial and economic analyses for venture capital, investment banking and consulting assignments, including shareholder disputes. Among other things, he helped identify and evaluate prospective emerging technology companies in need of venture capital funding.

University of San Diego

Research Assistant, Graduate Fellow (1988-1989)

Mr. Steinholt assisted with research regarding the performance of international equity markets following the 1987 stock market crash. He also developed computer programs related to the portfolio theory, including risk minimization and portfolio optimization based on quadratic programming techniques.

Educational Background

- **Chartered Financial Analyst**
CFA Institute, 1997
- **Master of International Business**
University of San Diego, 1989
- **Sivilingeniør** - (Norwegian graduate level engineering designation)
University of Trondheim, Norway, 1987
- **Bachelor of Science in Computer Science,
Computer Science and Engineering**
California State University, Long Beach, 1987

Professional Affiliations

- **Member, CFA Institute**
- **Member, Financial Analysts Society of San Diego**

Publications

“Price Impact Analysis – Where The Halliburton Court Erred,” Expert Analysis Section, *Law360* (August 25, 2015).

Testimony

In re: New England Health, et al v. Qwest Comm Intl Inc, et al., Case No. 1:01-cv-01451 (United States District Court for the District of Colorado). QwestDex Hearing Testimony relating to Section 11 damages: January 28, 2003. Mr. Steinholt was retained to opine on potential Section 11 damages.

In re: King, et al v. CBT Group PLC, et al., Case No. 98-cv-21014 (United States District Court, Northern District of California, San Jose Division). Deposition Testimony: November 5, 2003. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

In re: Employer-Teamsters Joint Council Pension Trust Fund v. America West Holding, et al., Case No. 99-cv-399 (United States District Court, District of Arizona). Deposition Testimony: October 28, 2004. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

In re: Howard Yue vs. New Focus, Case No. CV808031 (Superior Court of the State of California, County of Santa Clara). Deposition Testimony: July 28, 2005. Mr. Steinholt was retained to opine on the potential damages and other economic issues relating to the defendants’ acquisition of Globe Y.Technology, Inc.

In re: Howard Yue vs. New Focus, Case No. CV808031 (Superior Court of the State of California, County of Santa Clara). Deposition Testimony: August 9, 2005. Mr. Steinholt was retained to opine on the potential damages and other economic issues relating to the defendants’ acquisition of Globe Y.Technology, Inc.

In re: AB Liquidating Corp., fka Adaptive Broadband Corporation v. Ernst & Young, LLP (American Arbitration Association). Arbitration, March 23, 2006. Mr. Steinholt was retained to analyze the share turnover in Adaptive Broadband Corporation in connection with the liquidation of the company’s assets.

In re: AOL Time Warner, Inc. Securities and “ERISA” Litigation, Consolidated Opt-Out Action, Case No. 1:06-cv-00695 (United States District Court, Southern District of New York). Deposition Testimony: September 28, 2006. Mr. Steinholt was retained to opine on materiality and loss causation in a Section 11 context.

In re: Ohio Public Employees Retirement System vs. Richard Parsons, et al., Case No. 03-CVH07-7932 (Court of Common Pleas of Franklin County, Ohio). Deposition Testimony: March 22, 2007. Mr. Steinholt was retained to quantify Section 11 damages for various institutional investors.

In re: Ryan v. Flowserve Corporation et al., Case No. 3:03-cv-01769 (United States District Court, Northern District of Texas, Dallas Division). Deposition Testimony: June 15, 2007. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

In re: Nursing Home Pension Fund et al v. Oracle Corporation et al., Case No. 3:01-cv-00988 (United States District Court, Northern District of California). Deposition Testimony: July 2, 2007. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

In re: Carson, et al v. Neopharm Inc, et al., Case No. 1:02-cv-02976 (United States District Court, Northern District of Illinois, Eastern Division). Deposition Testimony: January 22, 2008. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

In re: HealthSouth Corporation Securities Litigation, Case No. 2:03-cv-01501-S (United States District Court, Northern District of Alabama, Southern Division). Deposition Testimony: February 1, 2008. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality and loss causation.

In re: Robert Kelleher, et al. v. ADVO, Inc., et al., Case No. 3:06-cv-01422 (United States District Court, District of Connecticut). Deposition Testimony: September 16, 2008. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality and loss causation in a class certification context.

In re: HealthSouth Corporation Securities Litigation, Case No. 2:03-cv-01501-S (United States District Court, Northern District of Alabama, Southern Division). Deposition Testimony: January 30, 2009. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality and loss causation.

In re: Huffy Corporation Securities Litigation, Case No. 3:05-cv-00028 (United States District Court, Southern District of Ohio, Western Division (at Dayton)). Deposition Testimony: November 12, 2009. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and potential damages for lead plaintiff.

Lori Weinrib v. The PMI Group, Inc. et al., Case No. 3:08-cv-01405, (United States District Court for the Northern District of California). Deposition Testimony: June 14, 2010. Mr. Steinholt was retained to opine on economic issues relating to market efficiency in a class certification context.

Kenneth McGuire, et al. v. Dendreon Corporation, et al., Case No. 2:07-cv-00800 (United States District Court, Western District of Washington at Seattle). Deposition Testimony: June 18, 2010. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

City of Livonia Employees' Retirement System v. The Boeing Company et al., Case No. 1:09-cv-07143, (United States District Court, Northern District of Illinois, Eastern Division). Deposition Testimony: November 5, 2010. Mr. Steinholt was retained to opine on economic issues relating to market efficiency in a class certification context.

Maureen Backe, et al. v. Novatel Wireless, Inc., et al., Case No. 08-cv-1689 (United States District Court, Southern District of California). Deposition Testimony: February 1, 2011. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

Paul Luman, et al. v. Paul G. Anderson, et al. (FCStone Group Securities Litigation), Case No. 4:08-cv-00514 (United States District Court, Western District of Missouri, Western Division). Deposition Testimony: January 5, 2012. Mr. Steinholt was retained to opine on economic issues relating to market efficiency in a class certification context.

T Grocery & Food Employees Welfare Fund v. Regions Financial Corporation et al., Case No. 2:10-cv-02847 (United States District Court, Northern District of Alabama). Deposition Testimony: May 8, 2012. Mr. Steinholt was retained to opine on economic issues relating to market efficiency in a class certification context.

City of Pontiac General Employee's Retirement System v. Lockheed Martin Corporation et al., Case No. 1:11-cv-05026, (United States District Court, Southern District of New York). Deposition Testimony: May 18, 2012. Mr. Steinholt was retained to opine on economic issues relating to market efficiency in a class certification context.

United Food and Commercial Workers Union et al v. Chesapeake Energy Corporation et al., Case No. 5:09-cv-01114 (United States District Court, Western District of Oklahoma). Deposition Testimony: August 14, 2012. Mr. Steinholt was retained to opine on loss causation in a Section 11 context.

City of Pontiac General Employee's Retirement System v. Lockheed Martin Corporation et al., Case No. 1:11-cv-05026, (United States District Court, Southern District of New York). Deposition Testimony: October 4, 2012. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

Western Pennsylvania Electrical Employees Pension Fund, et al. v. Dennis Alter, et al., (Advanta International Inc. Securities Litigation) Case No. 2:09-cv-04730 (United States District Court, Eastern District of Pennsylvania). Deposition Testimony: May 1, 2013. Mr. Steinholt was retained to opine on economic issues relating to market efficiency in a class certification context.

Southern Avenue Partners LP v. The Perot Family Trust et al., (Parkcentral Global Litigation) Case No. 3:09-cv-00765 (United States District Court, Northern District of Texas, Dallas Division). Deposition Testimony: May 6, 2013. Mr. Steinholt was retained to opine on the calculation of potential damages.

Maureen Backe, et al. v. Novatel Wireless, Inc., et al., Case No. 08-cv-1689 (United States District Court, Southern District of California). Deposition Testimony: June 25, 2013. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

Garden City Employees' Retirement System v. Psychiatric Solutions, Inc. et al., Civil Action No. 3:09-cv-00882 (United States District Court, Middle District of Tennessee, Nashville Division). Deposition Testimony: June 6, 2014. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

City of Pontiac General Employees' Retirement System v. Wal-Mart Stores, Inc. et al., Case No. 12-cv-05162 (United States District Court, Western District of Arkansas (Fayetteville)). Deposition Testimony: November 9, 2015. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

Alan B. Marcus, et al. v. J.C. Penney Company, Inc., et al., Case No. 13-cv-00736 (United States District Court, Eastern District of Texas (Tyler Division)). Deposition Testimony: March 4, 2016. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

Basis Yield Alpha Fund (Master) v. Goldman Sachs Group, Inc., et al., Index No: 652996/2011 (Supreme Court of the State of New York, County of New York). Deposition Testimony: April 1, 2016. Mr. Steinholt was retained to analyze loss causation related to two CDO-squared securities purchased by Basis Yield Alpha Fund (Master) from Goldman Sachs.

John Sender v. Franklin Resources, Inc., Case No. 11-cv-03828 (United States District Court, Northern District of California). Deposition Testimony: June 17, 2016. Mr. Steinholt was retained to analyze ERISA damages related to plaintiff's participation in defendant's Employee Stock Ownership Plan.

Alan Willis, et al. v. Big Lots, Inc., et al., Case No. 12-cv-00604 (United States District Court, Southern District of Ohio (Columbus)). Deposition Testimony: July 21, 2016. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

In re: Beaver County Employees Retirement Fund vs. Cyan, Inc., et al., Lead Case No. CGC-14-538355 (Superior Court of the State of California, County of San Francisco). Deposition Testimony: October 14, 2016. Mr. Steinholt was retained to opine on potential damages pursuant to §§11 and 12 of the Securities Act of 1933.

In Re Willbros Group, Inc. Securities Litigation, Case No. 14-cv-3084 (United States District Court, Southern District of Texas, Houston Division). Deposition Testimony: April 14, 2017. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

Shankar v. Imperva, Inc. et al., Case No. 14-cv-01680 (United States District Court, Northern District of California (Oakland)). Deposition Testimony: May 5, 2017. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

Glitz et al. v. Sandridge Energy Inc et al., Case No. 12-cv-01341 (United States District Court, Western District of Oklahoma). Deposition Testimony: May 3, 2018. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

Gary Curran, et al. v. Freshpet, Inc., et al.. Case No. 16-cv-02263 (United States District Court, District of New Jersey). Deposition Testimony: July 25, 2018. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

Megan Villella , et al. v. Chemical & Mining Co. of Chile, Inc., et al., Case No. 15-cv-02106 (United States District Court, Southern District of New York). Deposition Testimony: November 9, 2018. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

Glitz et al. v. Sandridge Energy Inc et al., Case No. 12-cv-01341 (United States District Court, Western District of Oklahoma). Deposition Testimony: June 12, 2019. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

Gary Curran, et al. v. Freshpet, Inc., et al., Case No. 16-cv-02263 (United States District Court, District of New Jersey). Deposition Testimony: June 27, 2019. Mr. Steinholt was retained to opine on economic issues relating to market efficiency, materiality, loss causation and Section 10(b) and Section 11 damages.

Scheufele et al v. Tableau Software, Inc. et al., Case No. 17-cv-05753 (United States District Court, Southern District of New York). Deposition Testimony: September 24, 2019. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

Douglas S. Chabot, et al. v. Walgreens Boots Alliance, Inc., et al., Case No. 18-cv-02118 (United States District Court, Middle District of Pennsylvania). Deposition Testimony: October 11, 2019. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

Jon D. Gruber, et al. v. Dakota Plains Holdings, Inc., et al., Case No. 16-cv-09727 (United States District Court, Southern District of New York). Deposition Testimony: July 2, 2020. Mr. Steinholt was retained to opine on economic issues relating to materiality, loss causation and Section 10(b) damages.

Scheufele et al v. Tableau Software, Inc. et al., Case No. 17-cv-05753 (United States District Court, Southern District of New York). Deposition Testimony: July 28, 2020. Mr. Steinholt was retained to opine on opine economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

Purple Mountain Trust v. Wells Fargo & Company et al., Case No. 18-cv-03948 (United States District Court, Northern District of California). Deposition Testimony: November 13, 2020. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

Gordon v. Vanda Pharmaceuticals Inc. et al, Case No. 19-cv-01108 (United States District Court, Eastern District of New York). Deposition Testimony: November 5, 2021. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

Georgia Firefighters' Pension Fund v. Anadarko Petroleum Corporation et al., Case No. 20-cv-00576 (United States District Court, Southern District of Texas). Deposition Testimony: November 17, 2021. Mr. Steinholt was retained to opine on economic issues relating to market efficiency and the calculation of class-wide damages in a class certification context.

Douglas S. Chabot, et al. v. Walgreens Boots Alliance, Inc., et al., Case No. 18-cv-02118 (United States District Court, Middle District of Pennsylvania). Deposition Testimony: January 14, 2022. Steinholt was retained to opine on opine economic issues relating to market efficiency, materiality, loss causation and Section 10(b) damages.

Jon D. Gruber, et al. v. Dakota Plains Holdings, Inc., et al., Case No. 16-cv-09727 (United States District Court, Southern District of New York). Trial Testimony: June 9-10, 2022. Mr. Steinholt provided trial testimony on economic issues relating to loss causation and Section 10(b) damages.

In re: Cloudera, Inc. Securities Litigation, Lead Case No. CV348674 (Superior Court of the State of California, County of Santa Clara). Deposition Testimony: September 22, 2022. Mr. Steinholt was retained to opine on potential damages pursuant to §§11 and 12 of the Securities Act of 1933.

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Case Documents

Amended Complaint for Violations of the Federal Securities Laws, dated August 17, 2020.

Memorandum and Order, dated January 19, 2021.

Defendants' Responses and Objections to Lead Plaintiff's First Set of Requests for Admissions, dated August 27, 2021.

Expert Report of Allen Ferrell, Ph.D., dated December 10, 2021.

Order of Class Certification, dated September 28, 2022.

October 26, 2022 Videotaped Dep. of Bob Gwin.

Filings with the Securities and Exchange Commission

Anadarko 2014 Form 10-K, filed with the SEC on February 20, 2015.

Anadarko 2015 Proxy Statement, filed with the SEC on March 20, 2015.

Anadarko 1Q2015 Form 10-Q, filed with the SEC on May 4, 2015.

Anadarko 2Q2015 Form 10-Q, filed with the SEC on July 28, 2015.

Anadarko 3Q2015 Form 10-Q, filed with the SEC on October 27, 2015.

Anadarko 2015 Form 10-K, filed with the SEC on February 17, 2016.

Anadarko 2016 Proxy Statement, filed with the SEC on March 18, 2016.

Anadarko 1Q2016 Form 10-Q, filed with the SEC on May 2, 2016.

Anadarko 2Q2016 Form 10-Q, filed with the SEC on July 26, 2016.

Anadarko S-3 Registration Statement, filed with the SEC on August 12, 2016.

Anadarko 3Q2016 Form 10-Q, filed with the SEC on October 31, 2016.

Anadarko 2016 Form 10-K, filed with the SEC on February 17, 2017.

Anadarko 2017 Proxy Statement, filed with the SEC on March 17, 2017.

Anadarko 1Q2017 Form 10-Q, filed with the SEC on May 2, 2017.

Anadarko 2Q2017 Form 10-Q, filed with the SEC on July 24, 2017.

Anadarko 3Q2017 Form 10-Q, filed with the SEC on October 31, 2017.

Anadarko 2017 Form 10-K, filed with the SEC on February 15, 2018.

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ConocoPhillips Form 8-K, Exhibit 99.1, filed with the SEC on May 2, 2017.

Noble Energy 2016 Form 10-K, filed with the SEC on February 14, 2017.

PDC Energy 2016 Form 10-K, filed with the SEC on February 28, 2017.

Extraction Oil & Gas, Inc. 2016 Form 10-K, filed with the SEC on March 13, 2017.

SRC Energy (formerly Synergy Resources Corporation) 2016 Form 10 K, filed with the SEC on February 23, 2017.

Press Releases

May 6, 2009, Anadarko press release, “Anadarko Announces First Quarter Results.”

March 19, 2013, Anadarko press release, “Anadarko Announces Shenandoah Appraisal Well Encounters More than 1,000 Net Feet of Oil Pay.”

February 2, 2015, Anadarko press release, “Anadarko Announces 2014 Fourth-Quarter And Full-Year Results.”

May 4, 2015, Anadarko press release, “Anadarko Announces First-Quarter 2015 Results.”

July 16, 2015, ConocoPhillips press release, “ConocoPhillips Announces Dividend Increase and Reductions in Future Deepwater Exploration Spending.”

July 28, 2015, Anadarko press release, “Anadarko Announces Second-Quarter 2015 Results.”

October 27, 2015, Anadarko press release, “Anadarko Announces Third-Quarter 2015 Results.”

February 1, 2016, Anadarko press release, “Anadarko Announces 2015 Fourth-Quarter and Full-Year Results.”

April 26, 2017, Anadarko press release, “Anadarko Issues Statement Regarding Colorado Operations.”

May 2, 2016, Anadarko press release, “Anadarko Announces First-Quarter 2016 Results.”

July 26, 2016, Anadarko press release, “Anadarko Announces Second-Quarter 2016 Results.”

October 31, 2016, Anadarko press release, “Anadarko Announces Third-Quarter 2016 Results.”

January 31, 2017, Anadarko press release, “Anadarko Announces 2016 Fourth-Quarter and Full-Year Results.”

March 14, 2017, Cobalt press release, “Cobalt International Energy, Inc. Announces Fourth Quarter and Year End 2016 Results.”

April 26, 2017, Anadarko press release, “Anadarko Issues Statement Regarding Colorado Operations.”

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May 2, 2017, ConocoPhillips press release, “ConocoPhillips Reports First-Quarter 2017 Results.”

May 2, 2017, Anadarko press release, “Anadarko Announces First-Quarter 2017 Results.”

May 2, 2017, Anadarko press release, “Anadarko Issues Statement Regarding Firestone Accident.”

May 4, 2017, ConocoPhillips press release, “ConocoPhillips Provides Update to First-Quarter 2017 Results Based on Subsequent Partner Disclosures and Information” (emphasis added).

May 8, 2017, Cobalt press release, “Cobalt International Energy, Inc. Announces First Quarter 2017 Results.”

July 24, 2017, Anadarko press release, “Anadarko Announces Second-Quarter 2017 Results.”

October 31, 2017, Anadarko press release, ““Anadarko Announces Third-Quarter 2017 Results.”

February 6, 2018, Anadarko press release, ““Anadarko Announces 2017 Fourth-Quarter and Full-Year Results.”

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March 3, 2015, Anadarko Petroleum Corp 2015 Capital Program and Guidance Call.

May 5, 2015, Anadarko 1Q2015 conference call.

July 29, 2015, Anadarko 2Q2015 conference call.

October 28, 2015, Anadarko 3Q2015 conference call.

February 2, 2015, Anadarko FY2015 conference call.

May 3, 2016, Anadarko 1Q2016 conference call.

July 27, 2016, Anadarko 2Q2016 conference call.

October 11, 2016, Anadarko 3Q2016 conference call.

February 1, 2017, Anadarko FY2016 conference call.

March 14, 2017, Cobalt FY2016 conference call.

May 3, 2017, Anadarko 1Q2017 conference call.

May 8, 2017, Cobalt 1Q2017 conference call.

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News Articles

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May 2, 2017, *Bloomberg*, “Anadarko 1Q Adjusted Loss Per Share Wider Than Est.; Shares Fall.”

May 2, 2017, *Bloomberg*, “Anadarko Profit Misses Estimates Even as Driller Boosts Output.”

May 2, 2017, *The Denver Post*, “Deadly Firestone explosion caused by odorless gas leaking from cut gas flow pipeline. Governor orders inspection of all oil and gas lines within 1,000 feet of occupied homes.”

<https://www.denverpost.com/2017/05/02/firestone-explosion-cause-cut-gas-line/>.

May 3, 2017, Bloomberg, “Cobalt Intl Cut at Citi as Anadarko Suspends Shenandoah Work.”

May 3, 2017, Bloomberg, “Cobalt International Cut to ‘Market Perform’ at Bernstein; PT Lowered to \$1.20.”

Analyst Reports

February 2, 2015, Capital One Securities energy summary, “Morning Energy Summary.”

February 2, 2015, RBC analyst report on Anadarko, “APC – 4Q14 EPS Miss, but strong operation CFPS beat.”

February 2, 2015, UBS analyst report on Anadarko, “Messy 4Q EPS But Cash Flow and Production In Line; 2015 Guidance Deferred Until Analyst Day.”

February 2, 2015, Morgan Stanley analyst report on Anadarko, “4Q14 Misses but on Non-Cash.”

February 4, 2015, RBC analyst report on Anadarko, “Choosing Value/Flexibility Over Growth.”

March 3, 2015, Morgan Stanley analyst report on Anadarko, “NAM Shines, Positioned to Lead in Recovery.”

April 24, 2015, Jefferies analyst report on industry, “Oil & Gas Exploration & Production 1Q E&P EPS; Hot, Cold, Warm, Warmer.”

April 27, 2015, Cowen analyst report on Anadarko, “Initiation: Outperform- Assets Worthy of a Major.”

May 4, 2015, Morgan Stanley analyst report on Anadarko, “1Q15 Results: Delivering More for Less.”

June 1, 2015, Evercore analyst report on industry, “Oil & Gas Exploration & Production; Initiation of Coverage.”

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June 26, 2015, Bank of America analyst report on Anadarko, “Tales from the road: exploration is back!”

August 4, 2015, Emperial Capital analyst report on Anadarko, “Strong 2Q Results, but More Importantly, APC’s Continuum of Choices to Explore for and Develop Large, Long-Term Oil Projects Shined Through, and Our Bigger Investment Thesis Remains Valid and on Track—Maintaining Our Outperform Rating; Lowering Price Target to \$109 from \$117.”

August 17, 2015, Barclays analyst report on industry, “Review of Texas Trip to Meet with Executives at 6 E&Ps.”

October 21, 2015, Jefferies analyst report on industry, “Oil & Gas Exploration & Production 3Q EPS Preview, US Oil Rolling, Gas Capex Cuts.”

October 28, 2015, Morgan Stanley analyst report on Anadarko, “3Q15: Still Running Faster than the Bear.”

October 28, 2015, RBC analyst report on Anadarko, “Onshore Oil Growth Assets Outperform.”

November 12, 2015, Oppenheimer analyst report on Anadarko, “When A Prey Becomes A Predator, Valuation Suffers.”

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January 27, 2016, Evercore analyst report on Anadarko, “Lots of Moving Parts in 2016, Big Questions Looming in 2017+.”

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March 1, 2016, Bank of America analyst report on Anadarko, “2016 Guidance: enhancing the equity story, improving credit outlook.”

March 4, 2016, Deutsche Bank analyst report on Anadarko, “Asset Sales: It's What's for Lunch.”

April 11, 2016, Simmons analyst report on Anadarko, “Partner Sells Down Shenandoah Working Interest.”

April 21, 2016, J.P. Morgan analyst report on Anadarko, “Feedback from Recent Upgrade; Addressing the Bears on Jubilee and Heidelberg Production Issues.”

May 2, 2016, UBS analyst report on Anadarko, “1Q16 EPS, CFPS, and Production a Modest Beat; More Asset Sales Further Improve Liquidity.”

May 3, 2016, Morgan Stanley analyst report on Anadarko, “Uneventful yet Robust 1Q16.”

May 4, 2016, J.P. Morgan analyst report on Anadarko, “More Positives Than Negatives, But a Few Chinks in the Armor.”

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May 24, 2016, UBS analyst report on Anadarko, "Highlights from UBS Global Oil and Gas Conference."

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July 26, 2016, Wells Fargo analyst report on Anadarko, "APC: Positive--Ops Strong, CFPS And EPS Beat."

July 27, 2016, Cowen analyst report on Anadarko, "2Q16 Earnings Review: Prepared for \$60/bbl."

July 27, 2016, UBS analyst report on Anadarko, "APC 2Q Beats, Raises Production Guidance, and Boosts Divestiture Target."

July 27, 2016, Morgan Stanley analyst report on Anadarko, "2Q16: Strong Start."

July 27, 2016, Deutsche Bank analyst report on Anadarko, "Strong Execution, But Where To From Here?"

July 28, 2016, Simmons analyst report on Anadarko, "Q2'16 Earnings Review: Improving Balance Sheet Through Divestitures."

August 1, 2016, MUFG analyst report on Anadarko, "Tempered Optimism -- Right Approach; Estimated Raised."

August 10, 2016, RBC analyst report on Anadarko, "Ready and Waiting."

September 8, 2016, Simmons analyst report on Anadarko, "Q3'16 Update: Attractive Valuation--Waiting on Catalysts."

September 27, 2016, J.P. Morgan analyst report on Anadarko, "Inside the Corner Suite with European Roadshow Takeaways; Confidence Grows on Relative Re-Rating Potential."

October 11, 2016, Morgan Stanley analyst report on Anadarko, "Notes From The Road: Top Pick Affirmation."

October 31, 2016, BMO analyst report on Anadarko, "GOM Drives 3Q Beat; Asset Sales Exceed Target."

October 31, 2016, Cowen analyst report on Anadarko, "Q3 Earnings at a Glance."

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October 31, 2016, J.P. Morgan analyst report on Anadarko, “3Q16 Flash; Upside Results and Portfolio Management Success; Going Out in Style – ALERT.”

October 31, 2016, Deutsche Bank analyst report on Anadarko, “Told Ya So: GoM, Delaware Lead Beat on Oil Vols.”

November 1, 2016, Morgan Stanley analyst report on Anadarko, “3Q16: Treat.”

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February 5, 2017, Goldman Sachs analyst report on Anadarko, “Unappreciated GOM production profile to drive the next leg up, Buy.”

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March 6, 2017, Cowen analyst report on Anadarko, “APC March 8th Investor Conference Call Preview.”

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March 9, 2017, KLR Group analyst report on Anadarko, “Slightly Higher Oil Composition Offsets Higher Operating Expense.”

March 9, 2017, MUFG analyst report on Anadarko, “Building a Loving (and Ward) System Key to Delaware Growth Plans.”

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March 31, 2017, Cowen & Co. analyst report on Cobalt, “Recap from the Road.”

April 27, 2017, Evercore analyst report on Anadarko, “APC Colorado Shut-ins.”

April 27, 2017, Capital One analyst report on Anadarko, “APC Reports Downtime in Wattenberg.”

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May 2, 2017, BMO Capital Markets analyst report on Anadarko, “1Q in Line, 2Q Lower but Full Year Unchanged; Shenandoah Appraisal Suspended.”

May 2, 2017, Johnson Rice analyst report on Anadarko, “Sales Note: Noisy Quarter on Divestments; 2Q17 Guide light, but 2017 Intact.”

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May 2, 2017, Raymond James analyst report on Anadarko, “1Q17 Quick Take: Anadarko Reports Solid First Quarter.”

May 2, 2017, Credit Suisse analyst report on Anadarko, “1Q17 Flash: Unfortunately, It’s Deja Vu All Over Again; Stock Reaction Mixed – ALERT.”

May 3, 2017, Atlantic Equities analyst report on Anadarko, “Shenandoah field write-off overshadows results.”

May 3, 2017, Societe Generale analyst report on Anadarko, “1Q17 Adjusted EPS Miss. Now 55% oil leveraged. Post asset sales, \$10.58/share in cash.”

May 3, 2017, Goldman Sachs analyst report on Anadarko, “On track to meet 2017 outlook; lower asset sale proceeds negative.”

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May 3, 2017, UBS analyst report on Anadarko, “Large Exploration Expense Drives 1Q17 EPS/CFPS Miss but EBITDX Beats; Maintains 2017 Guidance.”

May 3, 2017, Macquarie analyst report on Anadarko, “Where Do We Go From Here?”

May 3, 2017, Wolfe Research analyst report on Anadarko, “Mr. Misunderstood – Always left out, never fit in.”

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May 8, 2017, Cowen analyst report on Cobalt, “Q1 Quick Look.”

August 8, 2017, Cowen analyst report on Cobalt, “Uncertainties Remain Post Q2.”

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Internal Documents

APC-00734803; APC-00735955; APC-00737640; APC-00302750; APC-00288721;

APC-00092709; APC-01720442; APC-01720445

Data

Bloomberg: price, volume and other trading information for Anadarko common stock, market and industry indices, peer group companies and oil prices.

EXHIBIT C

Anadarko Securities Litigation**Event Study Regression for May 3, 2017**

REGRESSION OUTPUT

<i>Regression Statistics</i>	
Adjusted R Square	75.23%
Standard Error	0.97%
Observations (1)	138
<i>Coefficients</i>	
Intercept	(0.000)
S&P 500	0.189
Colorado Peer Group	0.797

Date	APC Closing Price	APC Return	S&P 500	Colorado Peer Group (2)	Predicted Return	Abnormal Return	\$ Impact	t-statistic
May 2, 2017	\$56.28	-0.69%	0.12%	-1.02%				
May 3, 2017	\$51.95	-7.69%	-0.11%	-5.30%	-4.28%	-3.42%	(\$1.92)	(3.52)

(1) Control period spans the 138 available trading days prior to the event (May 3, 2017)

(2) Equally weighted index of Colorado operators: Noble Energy, PDC Energy, SRC Energy and Extraction Oil & Gas

(3) t-statistic of (3.52), statistically significant at the 1% level

EXHIBIT D

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
2/20/2015	3,749,883	\$85.45	-0.75%		\$0.00	\$85.45	
2/23/2015	3,861,869	\$85.52	0.08%		\$1.75	\$83.77	
2/24/2015	3,003,344	\$85.89	0.43%		\$1.75	\$84.14	
2/25/2015	3,190,496	\$86.41	0.61%		\$1.75	\$84.66	
2/26/2015	4,002,373	\$85.24	-1.35%		\$1.75	\$83.49	
2/27/2015	6,321,673	\$84.23	-1.18%		\$1.75	\$82.48	
3/2/2015	6,564,662	\$82.02	-2.62%		\$1.75	\$80.27	
3/3/2015	5,506,768	\$82.78	0.93%		\$1.75	\$81.03	
3/4/2015	3,426,730	\$83.35	0.69%		\$1.75	\$81.60	
3/5/2015	3,312,179	\$82.84	-0.61%		\$1.75	\$81.09	
3/6/2015	5,386,879	\$81.73	-1.34%		\$1.75	\$79.98	
3/9/2015	3,296,411	\$80.77	-0.84%		\$1.75	\$79.02	
3/10/2015	4,617,143	\$78.99	-2.20%		\$1.75	\$77.24	
3/11/2015	3,134,550	\$79.49	0.63%		\$1.75	\$77.74	
3/12/2015	2,972,525	\$78.19	-1.64%		\$1.75	\$76.44	
3/13/2015	3,577,865	\$78.42	0.29%		\$1.75	\$76.67	
3/16/2015	4,590,672	\$80.64	2.83%		\$1.75	\$78.89	
3/17/2015	6,100,955	\$80.44	-0.25%		\$1.75	\$78.69	
3/18/2015	5,485,446	\$82.59	2.67%		\$1.75	\$80.84	
3/19/2015	4,001,142	\$80.43	-2.62%		\$1.75	\$78.68	
3/20/2015	5,062,910	\$81.95	1.89%		\$1.75	\$80.20	
3/23/2015	3,865,744	\$81.04	-1.11%		\$1.75	\$79.29	
3/24/2015	3,503,918	\$81.41	0.46%		\$1.75	\$79.66	
3/25/2015	4,056,799	\$82.34	1.14%		\$1.75	\$80.59	
3/26/2015	4,060,903	\$83.20	1.04%		\$1.75	\$81.45	
3/27/2015	2,432,362	\$82.19	-1.21%		\$1.75	\$80.44	
3/30/2015	2,828,757	\$83.85	2.02%		\$1.75	\$82.10	
3/31/2015	2,397,928	\$82.81	-1.24%		\$1.75	\$81.06	
4/1/2015	4,170,372	\$83.86	1.27%		\$1.75	\$82.11	
4/2/2015	3,567,863	\$84.55	0.82%		\$1.75	\$82.80	
4/6/2015	3,250,781	\$85.86	1.55%		\$1.75	\$84.11	
4/7/2015	3,518,976	\$85.44	-0.49%		\$1.75	\$83.69	
4/8/2015	5,908,806	\$86.12	0.80%		\$1.75	\$84.37	
4/9/2015	5,976,704	\$88.90	3.23%		\$1.75	\$87.15	
4/10/2015	4,061,904	\$90.10	1.35%		\$1.75	\$88.35	
4/13/2015	4,299,731	\$88.68	-1.58%		\$1.75	\$86.93	
4/14/2015	4,113,429	\$90.83	2.42%		\$1.75	\$89.08	
4/15/2015	7,222,503	\$94.54	4.08%		\$1.75	\$92.79	
4/16/2015	5,076,531	\$93.94	-0.63%		\$1.75	\$92.19	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
4/17/2015	6,560,651	\$93.68	-0.28%		\$1.75	\$91.93	
4/20/2015	7,866,624	\$93.66	-0.02%		\$1.75	\$91.91	
4/21/2015	3,091,857	\$92.56	-1.17%		\$1.75	\$90.81	
4/22/2015	2,651,577	\$93.04	0.52%		\$1.75	\$91.29	
4/23/2015	2,639,294	\$93.46	0.45%		\$1.75	\$91.71	
4/24/2015	3,426,548	\$92.65	-0.87%		\$1.75	\$90.90	
4/27/2015	2,424,079	\$93.16	0.55%		\$1.75	\$91.41	
4/28/2015	2,251,433	\$93.66	0.54%		\$1.75	\$91.91	
4/29/2015	3,339,185	\$93.90	0.26%		\$1.75	\$92.15	
4/30/2015	5,498,374	\$94.10	0.21%		\$1.75	\$92.35	
5/1/2015	2,211,910	\$93.92	-0.19%		\$1.75	\$92.17	
5/4/2015	5,065,535	\$93.73	-0.20%		\$1.75	\$91.98	
5/5/2015	9,411,401	\$89.32	-4.71%		\$1.75	\$87.57	
5/6/2015	4,731,354	\$89.66	0.38%		\$1.75	\$87.91	
5/7/2015	5,234,333	\$88.77	-0.99%		\$1.75	\$87.02	
5/8/2015	5,394,347	\$88.56	-0.24%		\$1.75	\$86.81	
5/11/2015	4,053,931	\$86.32	-2.53%		\$1.75	\$84.57	
5/12/2015	4,337,104	\$86.19	-0.15%		\$1.75	\$84.44	
5/13/2015	4,198,950	\$85.11	-1.25%		\$1.75	\$83.36	
5/14/2015	3,154,919	\$84.49	-0.73%		\$1.75	\$82.74	
5/15/2015	4,536,728	\$84.67	0.21%		\$1.75	\$82.92	
5/18/2015	3,169,627	\$84.98	0.37%		\$1.75	\$83.23	
5/19/2015	4,105,895	\$83.56	-1.67%		\$1.75	\$81.81	
5/20/2015	2,629,964	\$83.40	-0.19%		\$1.75	\$81.65	
5/21/2015	3,907,136	\$85.60	2.64%		\$1.75	\$83.85	
5/22/2015	4,026,816	\$86.17	0.67%		\$1.75	\$84.42	
5/26/2015	3,598,686	\$84.18	-2.31%		\$1.75	\$82.43	
5/27/2015	3,492,098	\$84.15	-0.04%		\$1.75	\$82.40	
5/28/2015	3,087,900	\$83.92	-0.27%		\$1.75	\$82.17	
5/29/2015	4,045,241	\$83.61	-0.37%		\$1.75	\$81.86	
6/1/2015	2,830,521	\$83.84	0.28%		\$1.75	\$82.09	
6/2/2015	2,995,050	\$84.79	1.13%		\$1.75	\$83.04	
6/3/2015	4,360,170	\$83.92	-1.03%		\$1.75	\$82.17	
6/4/2015	2,284,962	\$83.40	-0.62%		\$1.75	\$81.65	
6/5/2015	3,000,129	\$84.49	1.31%		\$1.75	\$82.74	
6/8/2015	3,846,817	\$82.96	-1.49%		\$1.75	\$81.21	
6/9/2015	4,515,623	\$83.22	0.31%		\$1.75	\$81.47	
6/10/2015	2,120,108	\$84.61	1.67%		\$1.75	\$82.86	
6/11/2015	1,845,108	\$83.93	-0.80%		\$1.75	\$82.18	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
6/12/2015	3,578,569	\$83.12	-0.97%		\$1.75	\$81.37	
6/15/2015	1,892,500	\$82.67	-0.54%		\$1.75	\$80.92	
6/16/2015	1,515,221	\$83.61	1.14%		\$1.75	\$81.86	
6/17/2015	2,008,813	\$83.03	-0.69%		\$1.75	\$81.28	
6/18/2015	2,408,410	\$82.89	-0.17%		\$1.75	\$81.14	
6/19/2015	4,028,878	\$81.82	-1.29%		\$1.75	\$80.07	
6/22/2015	2,007,299	\$81.97	0.18%		\$1.75	\$80.22	
6/23/2015	1,941,031	\$82.22	0.31%		\$1.75	\$80.47	
6/24/2015	3,847,381	\$81.45	-0.94%		\$1.75	\$79.70	
6/25/2015	3,039,708	\$80.73	-0.88%		\$1.75	\$78.98	
6/26/2015	3,973,846	\$81.36	0.78%		\$1.75	\$79.61	
6/29/2015	3,931,862	\$78.59	-3.40%		\$1.75	\$76.84	
6/30/2015	4,270,814	\$78.06	-0.67%		\$1.75	\$76.31	
7/1/2015	5,155,217	\$77.18	-1.13%		\$1.75	\$75.43	
7/2/2015	3,474,390	\$76.78	-0.52%		\$1.75	\$75.03	
7/6/2015	3,967,671	\$76.38	-0.52%		\$1.75	\$74.63	
7/7/2015	5,979,068	\$77.92	2.02%		\$1.75	\$76.17	
7/8/2015	3,653,087	\$75.47	-3.14%		\$1.75	\$73.72	
7/9/2015	3,703,230	\$76.08	0.81%		\$1.75	\$74.33	
7/10/2015	3,381,679	\$75.71	-0.49%		\$1.75	\$73.96	
7/13/2015	3,480,853	\$75.70	-0.01%		\$1.75	\$73.95	
7/14/2015	5,639,051	\$76.37	0.89%		\$1.75	\$74.62	
7/15/2015	4,723,560	\$75.20	-1.53%		\$1.75	\$73.45	
7/16/2015	4,296,594	\$74.69	-0.68%		\$1.75	\$72.94	
7/17/2015	4,012,775	\$73.88	-1.08%		\$1.75	\$72.13	
7/20/2015	4,795,648	\$72.62	-1.71%		\$1.75	\$70.87	
7/21/2015	4,907,584	\$73.37	1.03%		\$1.75	\$71.62	
7/22/2015	5,266,989	\$72.66	-0.97%		\$1.75	\$70.91	
7/23/2015	3,054,196	\$72.54	-0.17%		\$1.75	\$70.79	
7/24/2015	3,418,825	\$71.61	-1.28%		\$1.75	\$69.86	
7/27/2015	4,734,234	\$69.99	-2.26%		\$1.75	\$68.24	
7/28/2015	6,230,040	\$72.85	4.09%		\$1.75	\$71.10	
7/29/2015	7,818,149	\$76.28	4.71%		\$1.75	\$74.53	
7/30/2015	3,999,753	\$76.63	0.46%		\$1.75	\$74.88	
7/31/2015	4,025,825	\$74.35	-2.98%		\$1.75	\$72.60	
8/3/2015	3,829,043	\$73.22	-1.52%		\$1.75	\$71.47	
8/4/2015	4,208,724	\$74.30	1.48%		\$1.75	\$72.55	
8/5/2015	3,898,475	\$74.01	-0.39%		\$1.75	\$72.26	
8/6/2015	5,069,360	\$76.15	2.89%		\$1.75	\$74.40	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
8/7/2015	4,695,127	\$73.05	-4.07%		\$1.75	\$71.30	
8/10/2015	3,446,750	\$75.70	3.63%		\$1.75	\$73.95	
8/11/2015	3,653,885	\$75.47	-0.30%		\$1.75	\$73.72	
8/12/2015	6,202,713	\$78.10	3.48%		\$1.75	\$76.35	
8/13/2015	4,298,692	\$76.24	-2.38%		\$1.75	\$74.49	
8/14/2015	4,219,125	\$76.25	0.01%		\$1.75	\$74.50	
8/17/2015	2,399,754	\$76.54	0.38%		\$1.75	\$74.79	
8/18/2015	2,545,928	\$76.64	0.13%		\$1.75	\$74.89	
8/19/2015	7,351,775	\$72.38	-5.56%		\$1.75	\$70.63	
8/20/2015	6,733,187	\$71.05	-1.84%		\$1.75	\$69.30	
8/21/2015	6,927,000	\$68.78	-3.19%		\$1.75	\$67.03	
8/24/2015	11,059,381	\$65.55	-4.70%		\$1.75	\$63.80	
8/25/2015	5,022,645	\$63.99	-2.38%		\$1.75	\$62.24	
8/26/2015	6,274,936	\$65.16	1.83%		\$1.75	\$63.41	
8/27/2015	9,017,982	\$69.01	5.91%		\$1.75	\$67.26	
8/28/2015	6,647,098	\$70.94	2.80%		\$1.75	\$69.19	
8/31/2015	7,077,086	\$71.58	0.90%		\$1.75	\$69.83	
9/1/2015	5,283,636	\$68.29	-4.60%		\$1.75	\$66.54	
9/2/2015	4,221,792	\$69.53	1.82%		\$1.75	\$67.78	
9/3/2015	4,016,702	\$69.51	-0.03%		\$1.75	\$67.76	
9/4/2015	3,385,990	\$68.34	-1.29%		\$1.75	\$66.59	
9/8/2015	3,565,578	\$69.70	1.99%		\$1.75	\$67.95	
9/9/2015	4,004,504	\$67.20	-3.59%		\$1.75	\$65.45	
9/10/2015	4,137,509	\$67.21	0.01%		\$1.75	\$65.46	
9/11/2015	4,574,475	\$65.65	-2.32%		\$1.75	\$63.90	
9/14/2015	3,587,806	\$65.00	-0.99%		\$1.75	\$63.25	
9/15/2015	2,571,376	\$65.72	1.11%		\$1.75	\$63.97	
9/16/2015	4,678,656	\$69.14	5.20%		\$1.75	\$67.39	
9/17/2015	6,232,864	\$68.57	-0.82%		\$1.75	\$66.82	
9/18/2015	6,832,618	\$65.47	-4.52%		\$1.75	\$63.72	
9/21/2015	2,564,573	\$65.86	0.60%		\$1.75	\$64.11	
9/22/2015	2,781,073	\$64.81	-1.59%		\$1.75	\$63.06	
9/23/2015	4,733,317	\$63.18	-2.52%		\$1.75	\$61.43	
9/24/2015	3,459,562	\$63.70	0.82%		\$1.75	\$61.95	
9/25/2015	4,251,918	\$62.67	-1.62%		\$1.75	\$60.92	
9/28/2015	6,347,243	\$59.43	-5.17%		\$1.75	\$57.68	
9/29/2015	4,435,947	\$59.04	-0.66%		\$1.75	\$57.29	
9/30/2015	3,989,049	\$60.39	2.29%		\$1.75	\$58.64	
10/1/2015	4,083,759	\$60.95	0.93%		\$1.75	\$59.20	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
10/2/2015	5,264,105	\$64.11	5.18%		\$1.75	\$62.36	
10/5/2015	5,365,071	\$66.49	3.71%		\$1.75	\$64.74	
10/6/2015	4,978,473	\$68.65	3.25%		\$1.75	\$66.90	
10/7/2015	5,304,896	\$69.14	0.71%		\$1.75	\$67.39	
10/8/2015	7,104,999	\$72.33	4.61%		\$1.75	\$70.58	
10/9/2015	5,409,998	\$72.40	0.10%		\$1.75	\$70.65	
10/12/2015	4,138,040	\$71.09	-1.81%		\$1.75	\$69.34	
10/13/2015	2,961,209	\$70.58	-0.72%		\$1.75	\$68.83	
10/14/2015	4,428,094	\$71.57	1.40%		\$1.75	\$69.82	
10/15/2015	4,103,884	\$72.96	1.94%		\$1.75	\$71.21	
10/16/2015	4,414,027	\$73.39	0.59%		\$1.75	\$71.64	
10/19/2015	4,051,128	\$72.31	-1.47%		\$1.75	\$70.56	
10/20/2015	2,910,530	\$73.29	1.36%		\$1.75	\$71.54	
10/21/2015	2,753,957	\$71.55	-2.37%		\$1.75	\$69.80	
10/22/2015	3,318,670	\$73.00	2.03%		\$1.75	\$71.25	
10/23/2015	4,558,041	\$72.03	-1.33%		\$1.75	\$70.28	
10/26/2015	4,820,992	\$69.00	-4.21%		\$1.75	\$67.25	
10/27/2015	8,163,419	\$65.29	-5.38%		\$1.75	\$63.54	
10/28/2015	7,213,311	\$65.55	0.40%		\$1.75	\$63.80	
10/29/2015	6,891,954	\$67.58	3.10%		\$1.75	\$65.83	
10/30/2015	5,663,857	\$66.88	-1.04%		\$1.75	\$65.13	
11/2/2015	4,522,142	\$67.38	0.75%		\$1.75	\$65.63	
11/3/2015	6,343,931	\$70.84	5.14%		\$1.75	\$69.09	
11/4/2015	4,940,115	\$70.22	-0.88%		\$1.75	\$68.47	
11/5/2015	3,208,362	\$70.10	-0.17%		\$1.75	\$68.35	
11/6/2015	3,723,498	\$68.60	-2.14%		\$1.75	\$66.85	
11/9/2015	3,369,583	\$67.90	-1.02%		\$1.75	\$66.15	
11/10/2015	17,835,781	\$63.42	-6.60%		\$1.75	\$61.67	
11/11/2015	13,250,350	\$61.01	-3.80%		\$1.75	\$59.26	
11/12/2015	9,299,955	\$58.50	-4.11%		\$1.75	\$56.75	
11/13/2015	9,381,682	\$60.05	2.65%		\$1.75	\$58.30	
11/16/2015	7,089,698	\$62.11	3.43%		\$1.75	\$60.36	
11/17/2015	7,130,047	\$61.12	-1.59%		\$1.75	\$59.37	
11/18/2015	4,020,746	\$61.74	1.01%		\$1.75	\$59.99	
11/19/2015	5,114,302	\$59.64	-3.40%		\$1.75	\$57.89	
11/20/2015	4,338,024	\$58.74	-1.51%		\$1.75	\$56.99	
11/23/2015	6,585,389	\$60.35	2.74%		\$1.75	\$58.60	
11/24/2015	5,438,328	\$62.02	2.77%		\$1.75	\$60.27	
11/25/2015	2,784,863	\$61.13	-1.44%		\$1.75	\$59.38	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
11/27/2015	2,304,930	\$60.71	-0.69%		\$1.75	\$58.96	
11/30/2015	5,533,085	\$59.90	-1.33%		\$1.75	\$58.15	
12/1/2015	5,338,914	\$60.50	1.00%		\$1.75	\$58.75	
12/2/2015	6,525,633	\$58.77	-2.86%		\$1.75	\$57.02	
12/3/2015	6,107,945	\$58.14	-1.07%		\$1.75	\$56.39	
12/4/2015	8,315,611	\$56.81	-2.29%		\$1.75	\$55.06	
12/7/2015	11,092,713	\$53.68	-5.03%		\$1.75	\$51.93	
12/8/2015	9,576,471	\$51.82	-3.47%		\$1.75	\$50.07	
12/9/2015	8,609,648	\$50.83	-1.91%		\$1.75	\$49.08	
12/10/2015	8,363,900	\$51.23	0.79%		\$1.75	\$49.48	
12/11/2015	9,869,764	\$49.55	-3.28%		\$1.75	\$47.80	
12/14/2015	11,824,846	\$47.59	-3.96%		\$1.75	\$45.84	
12/15/2015	7,060,402	\$48.80	2.54%		\$1.75	\$47.05	
12/16/2015	7,657,622	\$47.67	-2.32%		\$1.75	\$45.92	
12/17/2015	13,563,465	\$46.73	-1.97%		\$1.75	\$44.98	
12/18/2015	8,659,164	\$45.67	-2.27%		\$1.75	\$43.92	
12/21/2015	13,333,245	\$46.55	1.93%		\$1.75	\$44.80	
12/22/2015	11,511,431	\$48.55	4.30%		\$1.75	\$46.80	
12/23/2015	8,278,780	\$51.50	6.08%		\$1.75	\$49.75	
12/24/2015	2,691,620	\$51.22	-0.54%		\$1.75	\$49.47	
12/28/2015	4,945,236	\$49.69	-2.99%		\$1.75	\$47.94	
12/29/2015	3,188,020	\$49.73	0.08%		\$1.75	\$47.98	
12/30/2015	3,534,793	\$48.38	-2.71%		\$1.75	\$46.63	
12/31/2015	3,672,312	\$48.58	0.41%		\$1.75	\$46.83	
1/4/2016	5,909,308	\$49.13	1.13%		\$1.75	\$47.38	
1/5/2016	4,130,002	\$48.52	-1.24%		\$1.75	\$46.77	
1/6/2016	10,750,092	\$43.77	-9.79%		\$1.75	\$42.02	
1/7/2016	13,733,204	\$40.11	-8.36%		\$1.75	\$38.36	
1/8/2016	11,345,620	\$40.56	1.12%		\$1.75	\$38.81	
1/11/2016	10,090,936	\$37.75	-6.93%		\$1.75	\$36.00	
1/12/2016	25,166,307	\$37.33	-1.11%		\$1.75	\$35.58	
1/13/2016	15,524,658	\$34.86	-6.62%		\$1.75	\$33.11	
1/14/2016	15,146,697	\$35.00	0.40%		\$1.75	\$33.25	
1/15/2016	15,072,222	\$32.02	-8.51%		\$1.75	\$30.27	
1/19/2016	13,316,079	\$30.85	-3.65%		\$1.75	\$29.10	
1/20/2016	16,346,359	\$30.54	-1.00%		\$1.75	\$28.79	
1/21/2016	11,363,212	\$33.55	9.86%		\$1.75	\$31.80	
1/22/2016	13,440,831	\$35.48	5.75%		\$1.75	\$33.73	
1/25/2016	9,761,636	\$32.31	-8.93%		\$1.75	\$30.56	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
1/26/2016	10,236,943	\$34.59	7.06%		\$1.75	\$32.84	
1/27/2016	10,505,460	\$35.53	2.72%		\$1.75	\$33.78	
1/28/2016	12,159,688	\$37.25	4.84%		\$1.75	\$35.50	
1/29/2016	9,588,350	\$39.09	4.94%		\$1.75	\$37.34	
2/1/2016	9,735,242	\$38.25	-2.15%		\$1.75	\$36.50	
2/2/2016	16,811,930	\$39.26	2.64%		\$1.75	\$37.51	
2/3/2016	14,322,918	\$42.49	8.23%		\$1.75	\$40.74	
2/4/2016	13,684,732	\$41.36	-2.66%		\$1.75	\$39.61	
2/5/2016	8,552,952	\$40.77	-1.43%		\$1.75	\$39.02	
2/8/2016	8,300,482	\$40.05	-1.77%		\$1.75	\$38.30	
2/9/2016	12,085,704	\$37.24	-7.02%		\$1.75	\$35.49	
2/10/2016	10,903,111	\$37.39	0.40%		\$1.75	\$35.64	
2/11/2016	16,470,278	\$35.68	-4.57%		\$1.75	\$33.93	
2/12/2016	7,516,975	\$37.81	5.97%		\$1.75	\$36.06	
2/16/2016	6,102,323	\$39.09	3.39%		\$1.75	\$37.34	
2/17/2016	10,239,547	\$40.50	3.61%		\$1.75	\$38.75	
2/18/2016	11,707,987	\$37.03	-8.57%		\$1.75	\$35.28	
2/19/2016	12,914,962	\$35.35	-4.54%		\$1.75	\$33.60	
2/22/2016	7,094,628	\$37.35	5.66%		\$1.75	\$35.60	
2/23/2016	6,104,428	\$35.30	-5.49%		\$1.75	\$33.55	
2/24/2016	8,671,634	\$36.21	2.58%		\$1.75	\$34.46	
2/25/2016	8,422,895	\$37.64	3.95%		\$1.75	\$35.89	
2/26/2016	7,059,736	\$38.02	1.01%		\$1.75	\$36.27	
2/29/2016	7,924,190	\$37.95	-0.18%		\$1.75	\$36.20	
3/1/2016	10,922,066	\$40.11	5.69%		\$1.75	\$38.36	
3/2/2016	9,839,747	\$42.65	6.33%		\$1.75	\$40.90	
3/3/2016	9,478,145	\$42.98	0.77%		\$1.75	\$41.23	
3/4/2016	13,165,306	\$45.26	5.30%		\$1.75	\$43.51	
3/7/2016	9,934,588	\$45.10	-0.24%		\$1.75	\$43.35	
3/8/2016	7,708,058	\$41.14	-8.78%		\$1.75	\$39.39	
3/9/2016	7,703,333	\$42.32	2.87%		\$1.75	\$40.57	
3/10/2016	7,037,015	\$42.50	0.43%		\$1.75	\$40.75	
3/11/2016	14,798,338	\$46.29	8.92%		\$1.75	\$44.54	
3/14/2016	6,291,621	\$46.31	0.04%		\$1.75	\$44.56	
3/15/2016	5,491,523	\$47.02	1.53%		\$1.75	\$45.27	
3/16/2016	9,017,663	\$48.71	3.59%		\$1.75	\$46.96	
3/17/2016	6,830,758	\$49.26	1.13%		\$1.75	\$47.51	
3/18/2016	10,288,354	\$48.76	-1.02%		\$1.75	\$47.01	
3/21/2016	5,803,845	\$48.61	-0.31%		\$1.75	\$46.86	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
3/22/2016	4,666,366	\$48.01	-1.23%		\$1.75	\$46.26	
3/23/2016	6,318,950	\$46.29	-3.58%		\$1.75	\$44.54	
3/24/2016	9,106,981	\$46.27	-0.04%		\$1.75	\$44.52	
3/28/2016	6,189,351	\$45.63	-1.38%		\$1.75	\$43.88	
3/29/2016	5,442,996	\$46.23	1.31%		\$1.75	\$44.48	
3/30/2016	5,345,369	\$46.39	0.35%		\$1.75	\$44.64	
3/31/2016	5,755,311	\$46.57	0.39%		\$1.75	\$44.82	
4/1/2016	3,379,912	\$45.81	-1.63%		\$1.75	\$44.06	
4/4/2016	4,417,957	\$44.59	-2.66%		\$1.75	\$42.84	
4/5/2016	4,394,366	\$44.10	-1.10%		\$1.75	\$42.35	
4/6/2016	9,776,929	\$45.71	3.65%		\$1.75	\$43.96	
4/7/2016	4,398,898	\$45.75	0.09%		\$1.75	\$44.00	
4/8/2016	5,945,871	\$48.29	5.55%		\$1.75	\$46.54	
4/11/2016	4,063,930	\$47.53	-1.57%		\$1.75	\$45.78	
4/12/2016	5,954,414	\$50.11	5.43%		\$1.75	\$48.36	
4/13/2016	4,407,755	\$49.32	-1.58%		\$1.75	\$47.57	
4/14/2016	4,599,698	\$49.46	0.28%		\$1.75	\$47.71	
4/15/2016	4,429,114	\$48.91	-1.11%		\$1.75	\$47.16	
4/18/2016	4,671,202	\$50.13	2.49%		\$1.75	\$48.38	
4/19/2016	6,730,831	\$50.53	0.80%		\$1.75	\$48.78	
4/20/2016	6,909,763	\$50.66	0.26%		\$1.75	\$48.91	
4/21/2016	7,799,487	\$50.03	-1.24%		\$1.75	\$48.28	
4/22/2016	6,365,023	\$52.55	5.04%		\$1.75	\$50.80	
4/25/2016	5,187,068	\$51.09	-2.78%		\$1.75	\$49.34	
4/26/2016	5,383,425	\$52.36	2.49%		\$1.75	\$50.61	
4/27/2016	7,606,778	\$54.78	4.62%		\$1.75	\$53.03	
4/28/2016	4,145,440	\$53.20	-2.88%		\$1.75	\$51.45	
4/29/2016	5,051,354	\$52.76	-0.83%		\$1.75	\$51.01	
5/2/2016	5,067,521	\$51.95	-1.54%		\$1.75	\$50.20	
5/3/2016	9,411,226	\$50.10	-3.56%		\$1.75	\$48.35	
5/4/2016	9,231,029	\$47.02	-6.15%		\$1.75	\$45.27	
5/5/2016	9,415,787	\$46.10	-1.96%		\$1.75	\$44.35	
5/6/2016	5,660,297	\$46.56	1.00%		\$1.75	\$44.81	
5/9/2016	4,152,244	\$44.99	-3.37%		\$1.75	\$43.24	
5/10/2016	4,047,359	\$47.01	4.49%		\$1.75	\$45.26	
5/11/2016	4,912,373	\$47.92	1.94%		\$1.75	\$46.17	
5/12/2016	6,733,603	\$48.25	0.69%		\$1.75	\$46.50	
5/13/2016	6,062,778	\$47.72	-1.10%		\$1.75	\$45.97	
5/16/2016	7,049,727	\$49.17	3.04%		\$1.75	\$47.42	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
5/17/2016	4,180,841	\$49.74	1.16%		\$1.75	\$47.99	
5/18/2016	3,620,698	\$48.94	-1.61%		\$1.75	\$47.19	
5/19/2016	3,792,017	\$49.22	0.57%		\$1.75	\$47.47	
5/20/2016	3,119,409	\$49.30	0.16%		\$1.75	\$47.55	
5/23/2016	4,022,284	\$49.20	-0.20%		\$1.75	\$47.45	
5/24/2016	3,544,080	\$50.24	2.11%		\$1.75	\$48.49	
5/25/2016	6,274,351	\$52.09	3.68%		\$1.75	\$50.34	
5/26/2016	4,725,954	\$52.28	0.36%		\$1.75	\$50.53	
5/27/2016	3,883,872	\$51.53	-1.43%		\$1.75	\$49.78	
5/31/2016	4,306,422	\$51.86	0.64%		\$1.75	\$50.11	
6/1/2016	4,014,955	\$52.40	1.04%		\$1.75	\$50.65	
6/2/2016	3,713,739	\$51.69	-1.36%		\$1.75	\$49.94	
6/3/2016	3,144,888	\$51.44	-0.48%		\$1.75	\$49.69	
6/6/2016	3,572,628	\$53.28	3.67%		\$1.75	\$51.53	
6/7/2016	6,953,994	\$55.22	3.64%		\$1.75	\$53.47	
6/8/2016	4,169,057	\$55.18	-0.07%		\$1.75	\$53.43	
6/9/2016	2,959,924	\$54.48	-1.27%		\$1.75	\$52.73	
6/10/2016	5,043,275	\$53.00	-2.72%		\$1.75	\$51.25	
6/13/2016	3,904,249	\$53.08	0.15%		\$1.75	\$51.33	
6/14/2016	3,187,397	\$53.70	1.17%		\$1.75	\$51.95	
6/15/2016	2,955,006	\$53.38	-0.60%		\$1.75	\$51.63	
6/16/2016	4,468,980	\$53.30	-0.15%		\$1.75	\$51.55	
6/17/2016	4,845,146	\$54.86	2.93%		\$1.75	\$53.11	
6/20/2016	4,383,867	\$54.85	-0.02%		\$1.75	\$53.10	
6/21/2016	2,216,471	\$55.51	1.20%		\$1.75	\$53.76	
6/22/2016	2,390,798	\$54.39	-2.02%		\$1.75	\$52.64	
6/23/2016	3,792,940	\$55.52	2.08%		\$1.75	\$53.77	
6/24/2016	8,010,912	\$52.83	-4.85%		\$1.75	\$51.08	
6/27/2016	8,149,924	\$49.50	-6.30%		\$1.75	\$47.75	
6/28/2016	5,095,129	\$51.13	3.29%		\$1.75	\$49.38	
6/29/2016	5,373,529	\$53.19	4.03%		\$1.75	\$51.44	
6/30/2016	4,838,163	\$53.25	0.11%		\$1.75	\$51.50	
7/1/2016	4,387,319	\$54.89	3.08%		\$1.75	\$53.14	
7/5/2016	3,952,378	\$53.61	-2.33%		\$1.75	\$51.86	
7/6/2016	4,432,612	\$55.19	2.95%		\$1.75	\$53.44	
7/7/2016	4,874,013	\$55.22	0.05%		\$1.75	\$53.47	
7/8/2016	4,035,312	\$55.91	1.25%		\$1.75	\$54.16	
7/11/2016	2,990,400	\$55.86	-0.09%		\$1.75	\$54.11	
7/12/2016	4,353,944	\$57.42	2.79%		\$1.75	\$55.67	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
7/13/2016	4,856,777	\$56.10	-2.30%		\$1.75	\$54.35	
7/14/2016	3,397,409	\$55.52	-1.03%		\$1.75	\$53.77	
7/15/2016	4,280,089	\$55.01	-0.92%		\$1.75	\$53.26	
7/18/2016	4,760,512	\$55.10	0.16%		\$1.75	\$53.35	
7/19/2016	4,321,915	\$53.85	-2.27%		\$1.75	\$52.10	
7/20/2016	4,051,080	\$54.52	1.24%		\$1.75	\$52.77	
7/21/2016	3,979,044	\$54.17	-0.64%		\$1.75	\$52.42	
7/22/2016	3,342,718	\$54.64	0.87%		\$1.75	\$52.89	
7/25/2016	4,483,269	\$53.87	-1.41%		\$1.75	\$52.12	
7/26/2016	3,418,177	\$54.74	1.62%		\$1.75	\$52.99	
7/27/2016	5,664,609	\$53.80	-1.72%		\$1.92	\$51.88	
7/28/2016	6,067,778	\$53.36	-0.82%		\$1.92	\$51.44	
7/29/2016	5,355,308	\$54.53	2.19%		\$1.92	\$52.61	
8/1/2016	6,163,435	\$51.85	-4.91%		\$1.92	\$49.93	
8/2/2016	4,756,650	\$51.63	-0.42%		\$1.92	\$49.71	
8/3/2016	3,969,311	\$52.68	2.03%		\$1.92	\$50.76	
8/4/2016	5,453,744	\$51.27	-2.68%		\$1.92	\$49.35	
8/5/2016	6,992,495	\$52.77	2.93%		\$1.92	\$50.85	
8/8/2016	4,532,868	\$53.05	0.53%		\$1.92	\$51.13	
8/9/2016	5,028,816	\$52.75	-0.57%		\$1.92	\$50.83	
8/10/2016	3,563,552	\$52.63	-0.23%		\$1.92	\$50.71	
8/11/2016	3,675,303	\$54.01	2.62%		\$1.92	\$52.09	
8/12/2016	3,710,155	\$54.28	0.50%		\$1.92	\$52.36	
8/15/2016	2,877,512	\$54.60	0.59%		\$1.92	\$52.68	
8/16/2016	3,929,361	\$54.15	-0.82%		\$1.92	\$52.23	
8/17/2016	2,522,516	\$54.38	0.42%		\$1.92	\$52.46	
8/18/2016	4,891,284	\$55.94	2.87%		\$1.92	\$54.02	
8/19/2016	3,165,448	\$54.83	-1.98%		\$1.92	\$52.91	
8/22/2016	3,158,955	\$54.27	-1.02%		\$1.92	\$52.35	
8/23/2016	3,421,917	\$56.05	3.28%		\$1.92	\$54.13	
8/24/2016	4,292,371	\$54.16	-3.37%		\$1.92	\$52.24	
8/25/2016	2,759,991	\$55.15	1.83%		\$1.92	\$53.23	
8/26/2016	2,594,481	\$55.26	0.20%		\$1.92	\$53.34	
8/29/2016	2,521,409	\$56.22	1.74%		\$1.92	\$54.30	
8/30/2016	3,252,923	\$55.78	-0.78%		\$1.92	\$53.86	
8/31/2016	5,256,689	\$53.47	-4.14%		\$1.92	\$51.55	
9/1/2016	5,195,640	\$53.54	0.13%		\$1.92	\$51.62	
9/2/2016	6,095,531	\$56.49	5.51%		\$1.92	\$54.57	
9/6/2016	3,586,960	\$57.19	1.24%		\$1.92	\$55.27	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
9/7/2016	4,185,021	\$57.18	-0.02%		\$1.92	\$55.26	
9/8/2016	4,277,848	\$59.06	3.29%		\$1.92	\$57.14	
9/9/2016	4,632,587	\$57.77	-2.18%		\$1.92	\$55.85	
9/12/2016	3,139,417	\$57.79	0.12%		\$1.92	\$55.87	
9/13/2016	33,186,622	\$57.59	-0.35%		\$1.92	\$55.67	
9/14/2016	14,741,610	\$55.62	-3.42%		\$1.92	\$53.70	
9/15/2016	6,970,935	\$56.93	2.36%		\$1.92	\$55.01	
9/16/2016	5,478,011	\$57.52	1.04%		\$1.92	\$55.60	
9/19/2016	4,816,145	\$57.52	0.00%		\$1.92	\$55.60	
9/20/2016	6,383,619	\$58.28	1.32%		\$1.92	\$56.36	
9/21/2016	8,091,508	\$61.06	4.77%		\$1.92	\$59.14	
9/22/2016	8,906,607	\$61.21	0.25%		\$1.92	\$59.29	
9/23/2016	11,432,700	\$59.50	-2.79%		\$1.92	\$57.58	
9/26/2016	5,942,349	\$58.54	-1.61%		\$1.92	\$56.62	
9/27/2016	6,082,682	\$58.27	-0.46%		\$1.92	\$56.35	
9/28/2016	7,397,551	\$61.27	5.15%		\$1.92	\$59.35	
9/29/2016	9,805,566	\$62.58	2.14%		\$1.92	\$60.66	
9/30/2016	8,027,580	\$63.36	1.25%		\$1.92	\$61.44	
10/3/2016	4,690,830	\$63.42	0.09%		\$1.92	\$61.50	
10/4/2016	6,739,515	\$63.47	0.08%		\$1.92	\$61.55	
10/5/2016	5,628,023	\$64.14	1.06%		\$1.92	\$62.22	
10/6/2016	4,537,658	\$63.85	-0.45%		\$1.92	\$61.93	
10/7/2016	2,689,157	\$63.46	-0.61%		\$1.92	\$61.54	
10/10/2016	3,255,747	\$64.39	1.47%		\$1.92	\$62.47	
10/11/2016	4,677,665	\$63.72	-1.04%		\$1.92	\$61.80	
10/12/2016	3,210,593	\$63.93	0.33%		\$1.92	\$62.01	
10/13/2016	3,800,773	\$64.07	0.22%		\$1.92	\$62.15	
10/14/2016	2,592,322	\$63.37	-1.09%		\$1.92	\$61.45	
10/17/2016	3,829,603	\$62.51	-1.36%		\$1.92	\$60.59	
10/18/2016	2,830,088	\$62.97	0.74%		\$1.92	\$61.05	
10/19/2016	3,814,669	\$63.93	1.52%		\$1.92	\$62.01	
10/20/2016	5,115,718	\$63.76	-0.27%		\$1.92	\$61.84	
10/21/2016	4,063,470	\$63.54	-0.35%		\$1.92	\$61.62	
10/24/2016	3,030,534	\$62.99	-0.87%		\$1.92	\$61.07	
10/25/2016	3,414,275	\$61.05	-3.08%		\$1.92	\$59.13	
10/26/2016	5,089,744	\$60.90	-0.25%		\$1.92	\$58.98	
10/27/2016	7,811,691	\$61.42	0.85%		\$1.92	\$59.50	
10/28/2016	5,738,248	\$61.46	0.07%		\$1.92	\$59.54	
10/31/2016	5,883,774	\$59.44	-3.29%		\$1.92	\$57.52	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
11/1/2016	7,891,559	\$59.95	0.86%		\$1.92	\$58.03	
11/2/2016	6,421,295	\$60.14	0.32%		\$1.92	\$58.22	
11/3/2016	4,534,482	\$60.25	0.18%		\$1.92	\$58.33	
11/4/2016	5,966,842	\$58.62	-2.71%		\$1.92	\$56.70	
11/7/2016	5,216,600	\$60.21	2.71%		\$1.92	\$58.29	
11/8/2016	4,359,201	\$59.73	-0.80%		\$1.92	\$57.81	
11/9/2016	6,080,051	\$61.19	2.44%		\$1.92	\$59.27	
11/10/2016	3,459,121	\$61.87	1.11%		\$1.92	\$59.95	
11/11/2016	2,934,104	\$61.04	-1.34%		\$1.92	\$59.12	
11/14/2016	3,796,591	\$60.50	-0.88%		\$1.92	\$58.58	
11/15/2016	9,026,050	\$62.56	3.41%		\$1.92	\$60.64	
11/16/2016	3,305,642	\$61.94	-0.99%		\$1.92	\$60.02	
11/17/2016	3,862,440	\$61.45	-0.79%		\$1.92	\$59.53	
11/18/2016	3,659,752	\$61.51	0.10%		\$1.92	\$59.59	
11/21/2016	4,781,838	\$64.03	4.10%		\$1.92	\$62.11	
11/22/2016	4,510,467	\$64.05	0.03%		\$1.92	\$62.13	
11/23/2016	3,399,479	\$65.00	1.48%		\$1.92	\$63.08	
11/25/2016	2,425,416	\$63.75	-1.92%		\$1.92	\$61.83	
11/28/2016	4,091,864	\$62.00	-2.75%		\$1.92	\$60.08	
11/29/2016	6,681,775	\$60.16	-2.97%		\$1.92	\$58.24	
11/30/2016	15,639,234	\$69.15	14.94%		\$1.92	\$67.23	
12/1/2016	7,815,923	\$68.59	-0.81%		\$1.92	\$66.67	
12/2/2016	3,668,960	\$68.56	-0.04%		\$1.92	\$66.64	
12/5/2016	3,998,465	\$68.29	-0.39%		\$1.92	\$66.37	
12/6/2016	4,115,408	\$68.21	-0.12%		\$1.92	\$66.29	
12/7/2016	4,812,240	\$69.27	1.55%		\$1.92	\$67.35	
12/8/2016	3,800,278	\$70.26	1.43%		\$1.92	\$68.34	
12/9/2016	4,410,886	\$70.47	0.30%		\$1.92	\$68.55	
12/12/2016	4,777,631	\$70.79	0.53%		\$1.92	\$68.87	
12/13/2016	7,528,808	\$72.69	2.68%		\$1.92	\$70.77	
12/14/2016	5,383,092	\$70.68	-2.77%		\$1.92	\$68.76	
12/15/2016	5,138,152	\$70.33	-0.50%		\$1.92	\$68.41	
12/16/2016	8,414,775	\$70.61	0.40%		\$1.92	\$68.69	
12/19/2016	2,698,138	\$71.37	1.08%		\$1.92	\$69.45	
12/20/2016	4,520,957	\$70.97	-0.56%		\$1.92	\$69.05	
12/21/2016	2,430,865	\$70.75	-0.31%		\$1.92	\$68.83	
12/22/2016	2,730,567	\$70.77	0.03%		\$1.92	\$68.85	
12/23/2016	1,800,713	\$71.25	0.68%		\$1.92	\$69.33	
12/27/2016	1,875,931	\$71.54	0.41%		\$1.92	\$69.62	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
12/28/2016	2,095,761	\$70.64	-1.26%		\$1.92	\$68.72	
12/29/2016	2,338,145	\$70.11	-0.75%		\$1.92	\$68.19	
12/30/2016	2,447,251	\$69.73	-0.54%		\$1.92	\$67.81	
1/3/2017	3,980,018	\$70.25	0.75%		\$1.92	\$68.33	
1/4/2017	3,681,112	\$70.81	0.80%		\$1.92	\$68.89	
1/5/2017	3,872,800	\$71.61	1.13%		\$1.92	\$69.69	
1/6/2017	5,757,411	\$71.74	0.18%		\$1.92	\$69.82	
1/9/2017	4,167,751	\$69.98	-2.45%		\$1.92	\$68.06	
1/10/2017	4,141,560	\$69.58	-0.57%		\$1.92	\$67.66	
1/11/2017	3,383,900	\$71.60	2.90%		\$1.92	\$69.68	
1/12/2017	3,132,659	\$71.49	-0.15%		\$1.92	\$69.57	
1/13/2017	2,632,942	\$71.24	-0.35%		\$1.92	\$69.32	
1/17/2017	2,547,420	\$70.72	-0.73%		\$1.92	\$68.80	
1/18/2017	4,029,899	\$69.89	-1.17%		\$1.92	\$67.97	
1/19/2017	3,678,738	\$70.18	0.41%		\$1.92	\$68.26	
1/20/2017	3,351,432	\$70.03	-0.21%		\$1.92	\$68.11	
1/23/2017	2,592,341	\$69.86	-0.24%		\$1.92	\$67.94	
1/24/2017	3,449,795	\$71.18	1.89%		\$1.92	\$69.26	
1/25/2017	3,592,415	\$70.67	-0.72%		\$1.92	\$68.75	
1/26/2017	2,931,033	\$71.14	0.67%		\$1.92	\$69.22	
1/27/2017	2,474,135	\$70.01	-1.59%		\$1.92	\$68.09	
1/30/2017	4,463,010	\$68.83	-1.69%		\$1.92	\$66.91	
1/31/2017	5,373,847	\$69.53	1.02%		\$1.92	\$67.61	
2/1/2017	6,303,374	\$68.36	-1.68%		\$1.92	\$66.44	
2/2/2017	5,207,496	\$69.10	1.08%		\$1.92	\$67.18	
2/3/2017	4,969,330	\$70.40	1.88%		\$1.92	\$68.48	
2/6/2017	3,189,781	\$69.10	-1.85%		\$1.92	\$67.18	
2/7/2017	4,494,988	\$67.14	-2.84%		\$1.92	\$65.22	
2/8/2017	4,179,267	\$67.15	0.01%		\$1.92	\$65.23	
2/9/2017	2,824,156	\$68.42	1.89%		\$1.92	\$66.50	
2/10/2017	4,513,042	\$69.34	1.34%		\$1.92	\$67.42	
2/13/2017	3,069,435	\$68.14	-1.73%		\$1.92	\$66.22	
2/14/2017	4,310,342	\$68.33	0.28%		\$1.92	\$66.41	
2/15/2017	5,561,024	\$67.52	-1.19%		\$1.92	\$65.60	
2/16/2017	4,962,225	\$66.60	-1.36%		\$1.92	\$64.68	
2/17/2017	3,455,908	\$66.77	0.26%		\$1.92	\$64.85	
2/21/2017	3,858,068	\$67.21	0.66%		\$1.92	\$65.29	
2/22/2017	5,040,618	\$65.84	-2.04%		\$1.92	\$63.92	
2/23/2017	3,308,254	\$65.98	0.21%		\$1.92	\$64.06	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
2/24/2017	4,833,040	\$64.77	-1.83%		\$1.92	\$62.85	
2/27/2017	5,338,747	\$64.90	0.20%		\$1.92	\$62.98	
2/28/2017	4,246,035	\$64.65	-0.39%		\$1.92	\$62.73	
3/1/2017	3,908,441	\$66.02	2.12%		\$1.92	\$64.10	
3/2/2017	4,619,255	\$64.09	-2.92%		\$1.92	\$62.17	
3/3/2017	7,090,806	\$63.21	-1.37%		\$1.92	\$61.29	
3/6/2017	4,957,626	\$63.25	0.14%		\$1.92	\$61.33	
3/7/2017	4,934,796	\$63.16	-0.14%		\$1.92	\$61.24	
3/8/2017	7,999,335	\$61.40	-2.79%		\$1.92	\$59.48	
3/9/2017	5,747,687	\$61.94	0.88%		\$1.92	\$60.02	
3/10/2017	4,391,871	\$61.89	-0.08%		\$1.92	\$59.97	
3/13/2017	4,240,161	\$62.82	1.50%		\$1.92	\$60.90	
3/14/2017	4,491,997	\$61.81	-1.61%		\$1.92	\$59.89	
3/15/2017	5,356,386	\$64.08	3.67%		\$1.92	\$62.16	
3/16/2017	2,983,937	\$63.40	-1.06%		\$1.92	\$61.48	
3/17/2017	3,666,876	\$63.25	-0.24%		\$1.92	\$61.33	
3/20/2017	3,419,155	\$62.84	-0.65%		\$1.92	\$60.92	
3/21/2017	3,048,145	\$61.82	-1.62%		\$1.92	\$59.90	
3/22/2017	2,542,999	\$61.63	-0.31%		\$1.92	\$59.71	
3/23/2017	4,039,234	\$60.79	-1.36%		\$1.92	\$58.87	
3/24/2017	3,559,012	\$60.34	-0.74%		\$1.92	\$58.42	
3/27/2017	3,512,404	\$59.94	-0.66%		\$1.92	\$58.02	
3/28/2017	4,473,495	\$61.14	2.00%		\$1.92	\$59.22	
3/29/2017	3,912,196	\$62.45	2.14%		\$1.92	\$60.53	
3/30/2017	5,742,258	\$62.17	-0.45%		\$1.92	\$60.25	
3/31/2017	3,782,021	\$62.00	-0.27%		\$1.92	\$60.08	
4/3/2017	2,581,435	\$61.79	-0.34%		\$1.92	\$59.87	
4/4/2017	3,132,144	\$62.71	1.49%		\$1.92	\$60.79	
4/5/2017	6,442,906	\$62.85	0.22%		\$1.92	\$60.93	
4/6/2017	2,673,076	\$62.89	0.06%		\$1.92	\$60.97	
4/7/2017	2,205,071	\$62.43	-0.73%		\$1.92	\$60.51	
4/10/2017	2,239,403	\$62.89	0.74%		\$1.92	\$60.97	
4/11/2017	2,864,501	\$62.90	0.02%		\$1.92	\$60.98	
4/12/2017	2,470,750	\$62.54	-0.57%		\$1.92	\$60.62	
4/13/2017	4,660,881	\$61.09	-2.32%		\$1.92	\$59.17	
4/17/2017	3,240,193	\$61.21	0.20%		\$1.92	\$59.29	
4/18/2017	3,353,646	\$60.41	-1.31%		\$1.92	\$58.49	
4/19/2017	4,384,582	\$59.13	-2.12%		\$1.92	\$57.21	
4/20/2017	3,789,814	\$59.00	-0.22%		\$1.92	\$57.08	

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
4/21/2017	3,720,303	\$59.29	0.49%		\$1.92	\$57.37	
4/24/2017	3,273,916	\$59.37	0.13%		\$1.92	\$57.45	
4/25/2017	3,000,946	\$60.08	1.20%		\$1.92	\$58.16	
4/26/2017	2,744,976	\$59.96	-0.20%		\$1.92	\$58.04	
4/27/2017	14,106,206	\$57.12	-4.74%		\$1.92	\$55.20	
4/28/2017	5,059,768	\$57.02	-0.18%		\$1.92	\$55.10	
5/1/2017	4,931,206	\$56.67	-0.61%		\$1.92	\$54.75	
5/2/2017	5,537,330	\$56.28	-0.69%		\$1.92	\$54.36	
5/3/2017	22,118,227	\$51.95	-7.69%	(\$1.92)			\$51.95
5/4/2017	10,683,975	\$51.94	-0.02%				\$51.95
5/5/2017	6,212,357	\$52.59	1.25%				\$52.16
5/8/2017	6,541,036	\$52.31	-0.53%				\$52.20
5/9/2017	7,827,546	\$51.33	-1.87%				\$52.02
5/10/2017	9,138,311	\$52.08	1.46%				\$52.03
5/11/2017	6,033,875	\$51.54	-1.04%				\$51.96
5/12/2017	4,203,349	\$51.63	0.17%				\$51.92
5/15/2017	5,220,757	\$51.88	0.48%				\$51.92
5/16/2017	5,155,648	\$51.75	-0.25%				\$51.90
5/17/2017	4,863,891	\$51.74	-0.02%				\$51.89
5/18/2017	5,418,926	\$52.08	0.66%				\$51.90
5/19/2017	5,718,723	\$53.30	2.34%				\$52.01
5/22/2017	4,709,380	\$53.35	0.09%				\$52.11
5/23/2017	4,333,718	\$53.57	0.41%				\$52.20
5/24/2017	3,426,415	\$53.35	-0.41%				\$52.27
5/25/2017	3,950,922	\$52.07	-2.40%				\$52.26
5/26/2017	6,205,533	\$51.84	-0.44%				\$52.24
5/30/2017	5,087,772	\$50.77	-2.06%				\$52.16
5/31/2017	5,511,905	\$50.53	-0.47%				\$52.08
6/1/2017	3,491,845	\$51.11	1.15%				\$52.03
6/2/2017	5,038,504	\$50.06	-2.05%				\$51.94
6/5/2017	4,163,334	\$49.64	-0.84%				\$51.84
6/6/2017	4,523,232	\$50.10	0.93%				\$51.77
6/7/2017	8,372,055	\$47.17	-5.85%				\$51.59
6/8/2017	5,174,624	\$46.63	-1.14%				\$51.40
6/9/2017	4,109,360	\$47.98	2.90%				\$51.27
6/12/2017	5,192,962	\$48.30	0.77%				\$51.16
6/13/2017	5,173,666	\$49.22	1.90%				\$51.10
6/14/2017	6,475,785	\$47.28	-3.94%				\$50.97
6/15/2017	5,321,165	\$46.11	-2.47%				\$50.81

Anadarko Securities Litigation**Analysis of Inflation**

Date	Reported Volume	Closing Price	Returns	\$ Impact	Inflation per Share (1)	Implied Value	90-Day Moving Average
6/16/2017	5,662,430	\$47.04	2.02%				\$50.70
6/19/2017	4,175,658	\$46.70	-0.72%				\$50.57
6/20/2017	5,489,512	\$46.29	-0.88%				\$50.45
6/21/2017	5,060,224	\$45.35	-2.03%				\$50.30
6/22/2017	4,792,878	\$45.09	-0.57%				\$50.16
6/23/2017	5,413,190	\$45.50	0.91%				\$50.03
6/26/2017	4,575,500	\$44.92	-1.27%				\$49.90
6/27/2017	8,645,807	\$43.80	-2.49%				\$49.74
6/28/2017	7,134,650	\$43.79	-0.02%				\$49.59
6/29/2017	8,356,850	\$45.25	3.33%				\$49.49
6/30/2017	5,344,694	\$45.34	0.20%				\$49.39
7/3/2017	2,547,926	\$46.10	1.68%				\$49.31
7/5/2017	4,126,722	\$44.81	-2.80%				\$49.21
7/6/2017	7,640,657	\$43.62	-2.66%				\$49.08
7/7/2017	4,923,852	\$43.36	-0.60%				\$48.96
7/10/2017	3,487,592	\$43.59	0.53%				\$48.85
7/11/2017	4,063,857	\$43.64	0.11%				\$48.74
7/12/2017	4,783,207	\$43.82	0.41%				\$48.64
7/13/2017	4,482,902	\$44.45	1.44%				\$48.55
7/14/2017	4,911,791	\$44.73	0.63%				\$48.48
7/17/2017	4,900,159	\$45.22	1.10%				\$48.42
7/18/2017	5,071,740	\$43.77	-3.21%				\$48.33
7/19/2017	6,986,454	\$44.91	2.60%				\$48.26
7/20/2017	5,833,314	\$43.84	-2.38%				\$48.18
7/21/2017	5,891,229	\$44.06	0.50%				\$48.11
7/24/2017	5,152,929	\$44.21	0.34%				\$48.04
7/25/2017	8,885,515	\$45.72	3.42%				\$48.00
7/26/2017	5,164,592	\$45.17	-1.20%				\$47.95
7/27/2017	7,007,516	\$47.32	4.76%				\$47.94
7/28/2017	5,827,119	\$46.32	-2.11%				\$47.92
7/31/2017	4,135,667	\$45.67	-1.40%				\$47.88

(1) Inflation adjusted for announcement that working interest was increased from 30% to 33%
Assumes liability starts on February 21, 2015